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RURAL UNIVERSITIES

EXTENSION TRAINING CENTRE
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TAMILNAD BASIC EDUCATION SOCIETY
Gandhi Ashramam
KILAMOONGILADI — CHIDAMBARAM.

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EXTENSION TRAINING CENTRE
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RURAL UNIVERSITIES

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TAMILNAD BASIC EDUCATION SOCIETY

Gandhi Ashramam

KILAMOONGILADI — CHIDAMBARAM.

First Edition January 1951.

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PUBLISHERS' NOTE.

Much time has elapsed between the inception and publication of this booklet; but the delay has also contributed to its fullness.

The main portion of the book is a re-print of the last chapter of the Radhakrishnan University Commission Report on Rural Universities, which is a fresh and substantial contribution to world educational thought.

The Silver Jubilee address by the President of the Indian Republic to the Inter-University Board, in its pattern and in its emphasis on Rural Higher Education, seemed a very appropriate introduction to the study of the subject; hence relevant extracts from the address have been included in the book as its first chapter.

Appropriate appendices from the University Commission Report have been included for elucidating the practicability of the scheme envisaged.

Dr. Morgan, one of the members of the University Commission, after his return to America, had sent a note to the Hindustani Talimi Sangh, on the objective of Rural University and valuable suggestions for its organization. Dr. Morgan's note helps in a complete presentation of the theme attempted in this book and so was included as the last appendix.

Principal Swaminathan acceded to our request for a foreword. He has in his forward stated and explained, in his own characteristic and compact manner, the standpoint from which the problem of Rural Higher Education is to be studied and served. Our thanks are due to him in great measure as also to the Government of India and to Dr. Morgan for according the necessary permission.

Our apologies are due to the readers for some avoidable errors that have crept in the printing.

Tamilnad Basic Education Society.

FOREWORD

This reprint of the Chapter on Rural Universities in the Radhakrishnan Commission Report is being issued in the hope that careful study and critical discussion of the facts and arguments in the Chapter will lead and enable statesmen, educationalists and the public generally to take early practical action for developing higher education in rural areas.

Our existing colleges and Universities have contributed much to the progress of India in several directions. Critical enquiry and the scientific outlook, modern methods of organization, co-operative action and non-denominational communal living—these are the precious gifts we owe to our educational institutions.

And yet, they have on the whole failed in two important respects :- (1) They have produced far too few persons who pursue knowledge disinterestedly or who are prepared to commit themselves unreservedly to the service of their fellow-men; and (2) They have drawn all they can from the villages and have returned very very little in material wealth or *personnel*, to the villages, which are the living and life-sustaining heart of India.

So far, our educational system has been busily concerned with the individual leaves and flowers, to the complete neglect of the root and fruit, of our national culture. Alike in quantity and quality, in content and attitude, some improve-

ment in our educational system was called for and it was in response to this demand that Gandhiji evolved the new, less formal but more creative and satisfying, system of Basic Education. Nai Talim, like adult franchise, has come to stay; and our existing Institutions have got to come to terms with these onerous gifts of Gandhiji.

The teachers and students in our innumerable colleges, laboriously preparing against University examinations, have lost all sense of academic direction or social purpose, and cannot honestly and on considerations of public good justify their existence or their activities to themselves; they dare not face the challenging scrutiny of their new masters, the enfranchised masses. Form without substance cannot long retain respect. The fate that has overtaken the *dvija* is sure in the near future to overtake the mere degree-holder.

Our one hope of survival lies in the return of our teachers and students to the villages. There, if anywhere, still beats the true life, the cultural as well as the economic life, of India. Service there would fill with substance the gaunt, formal structures of our educational institutions. It is not yet too late to revive our village culture. Every element in our rural population has some precious tradition which needs to be studied and evaluated and transmitted to the whole population. The one great artistic tradition that has come down to us in South India

in unbroken continuity from the distant past is the tradition of Karnatic music; and this is associated even today with the magical names of our villages:- Ariakkudi, Chembai, Chittoor, Kivaloor, Maharajapuram, Musiri, Pandanallur, Papanasam, Semmangudi.

Rural Colleges can take inspiration and knowledge from—and not merely take them to—our villages. They will not only help the revival of our village-life; they will give meaning and purpose to our whole educational system.

The grounds for this belief, the practical methods of starting and working such Colleges and their possible aims and results, the distant as well as the near, are stated with persuasive eloquence in the Report and the Appendices. What Rajaji said the other day about the *Gita* applies with even greater force to this little book:- "Use it as a Railway Guide, to plan your journey. It is no good merely studying it."

23rd November, 1950
Bangalore.

K. Swaminathan.

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THE FUTURE OF UNIVERSITY EDUCATION IN INDIA

by

PRESIDENT RAJENDRA PRASAD.

Recently the Government had appointed a University Commission under the chairmanship of Dr. S. Radhakrishnan of which, besides eminent Indians, educationists from the U. S. A., and the U. K., also served as members. The Commission worked hard and made a detailed study of the present system of education in India, specially in Indian Universities. I trust all the Universities of this country will give their best thought to this Report.

* * *

The greatest weakness in our educational system has been that our Universities do not equip their graduates for specialised trade, nor is the education imparted by them so deep or comprehensive as to command universal respect. That is to say, this education bestows neither economic advantage nor learning on its votaries. Another tendency which modern education tends to foster is aversion for manual labour. This tendency is highly detrimental to national interests. As the educated do not get from society the response to which they imagine their education entitles them, an inevitable conflict ensures between them and the society. This often results in frustration, maladjustments and sometimes in

misanthropy. There is another harm for which this tendency is responsible. It creates a gulf between the educated and the village folk. The educated feel attracted towards the din and buzz of the towns and our villages remain untouched by the spread of education. Thus, while the villages are neglected, the towns are getting congested. It can well be imagined how harmful this trend is for our country. Therefore, before expanding the present educational facilities, we must pause and think seriously whether it is going to do us any good to cling to the old system blindly.

* * *

One great thing which the report of the University Commission has done is the emphasis laid by it on Rural Universities. This recommendation of the Commission has a special significance. If we succeed in shifting the centre of gravitation in respect of educational matters from the town to rural areas, we shall have completely changed the face of our land. I would like such of those as are interested in the problem of education to make a study of the Commission's recommendations with a view to trying to adopt them to conditions obtaining in every state. If practical steps are taken towards the establishment of Rural Universities that will also properly canalise popular enthusiasm disernible in the people of the states. I would, therefore insist that all those who are anxious to start new,

colleges or Universities give the fullest thought to this proposal of the University Commission.

* * * *

In making this recommendation, the University Commission was influenced considerably by the example of Denmark and the results of the basic education plan of Mahatma Gandhi. Denmark is a small country, with a population of only 4 millions; but it is a land of plenty and prosperity, where all the people are educated and where, unlike other countries, richness and poverty do not present a steep contrast. It is as advanced as any other country of Europe and in some respects is considered more progressive than its neighbours. The basis of this progress is the Danish system of education. Education in that country starts from basic schools and ends in Universities situated in rural areas. Here is a pattern which we may well follow. It will not only revolutionise our education, but also our living. This will pave the way for a synthesis of our ancient culture and modern science. That is why I think while establishing new Universities we cannot remain satisfied with old type of Universities. We must come out of the rut and establish Rural Universities.

Ever since my contact with Gandhiji, my respect for the modern system of education and educational institutions has been waning. My interest lies more in national institutions and the plan of Basic Education. The establish-

ment of the Democratic Republic of India and the recommendations of the University Commission have further intensified my interest in Basic Education and Rural Universities.

* * * *

The University Commission's recommendation about character building in students would also deserve our attention. The education has to present an example of good character to the common people. This can never be done by pious sermons or mere preaching. To achieve this, one has to develop one's own character and educate others by example rather than precept. One of the defects in the modern system of education is that it devotes little attention to character-building. Our educational programme has, therefore, to give a place of honour to character so as to inculvate in our students respect for truth, love for service and a capacity to equate personal gain with selfless service.

(Extracts from the Silver Jubilee address to the Inter - Universities Board.)

RURAL UNIVERSITIES.

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1. A relatively unoccupied Field. 2. The Significance of the Indian Village. 3. The Possibilities of Basic Education. 4. The " Basic Education " Programme. 5. The People's College.

II. The Rural Secondary School (" Post-Basic Education ")

6. A Residence School Village. 7. Learning by Living. 8. The Rural Secondary School Programme. 9. Self - support in Basic Education. 10. Division of Labour in Basic Secondary Schools. 11. Short Time Technical Courses. 12. The Duration of Rural Education.

III. Post-Basic (Secondary) Education and Village Industrialization.

13. Industrialization is Inevitable. 14. Decentralized Industry. 15. Industrial Inter - relations.

IV. A Programme for the Reconstruction of Indian Villages.

16. Future of the Village. 17. Reconstruction,

V. Rural Colleges and Universities.

18. General Characteristics. 19. Work and Study. 20. The Curriculum of the Rural University.

VI. Some Concerns of Rural Universities.

21. Rural Professions. 22. The Social Attitudes of the Rural Professions and of Business. 23. What is a "Profession" in Rural Education? 24. Rural Education and the Great Traditions. 25. The Great Traditions of Common Life. 26. Rural Education and Research.

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27. A Distinctive Pattern. 28. Rural Education Councils. 29. Autonomy. 30. Rural University Administration. 31. The Relations between Rural Secondary Schools, Collegs and Universities and the existing Universities. 32. How to get the Rural Education Programme under way. 33. Co-operation with other Agencies of Government.

VIII. Conclusions.

34. Education in Hope and Courage. 35. A Feasible Programme. 36. Recommendation.

1. The Background for Rural Higher Education.

1. A relatively unoccupied Field:— The conditions of Indian life and government under which the present universities had their origin and development have already been described. It was inevitable that the universities should be influenced by these conditions. They are valuable institutions and are expected to yield good results after necessary adaptations to the changed conditions of a free people. These adaptations and reforms it has been our concern to suggest.

Yet anyone can see that our present universities—besides some qualitative limitations—touch only the fringe of what is required in the way of higher education in the world's newest and most populous democracy. There is a vast field of pioneeriug before us in the process of evolving new institutions of higher learning which will answer to the needs and aspirations of this democracy.

Such pioneering demands more than improvements in the existing pattern. To require all new universities to grow out cf the existing system would be to impose needless and hampering limitations upon our educational possibilities. A chance for new, free beginnings unhampered by the recent historic past, which can take advantage of marked

advances in world educational thought and practice, is made possible by the necessary large expansion of educational facilities.

In looking at the problem of new institutions the fact should be kept in view that, as reported by the 1941 census, about 85% of the population of India live in villages. This vast population has been scarcely touched by secondary or higher education, except by the permanent withdrawal from village life of those able young people who have left the villages for the universities. The extreme poverty and lack of cultural opportunity of this population is common knowledge. The course of wisdom is not to deny or to ignore this glaring lack, but rather to create the types of educational opportunity which are appropriate to Indian rural life, and to give a quality and range to that life which will remove the disparity which is now a reality.

There should be no feeling of conflict between existing and new type (rural) universities, any more than between engineering education and medical education. However, because the pattern and spirit of existing universities is so distinctly urban centred, and because of the tendency of an old and dominant institution to impose its type upon any new institution in a similar field, it is a matter of practical necessity that new universities aiming at extending educational oppor-

tunity to the great mass of rural India, and to give vitality and quality to rural life, should have their own independent design and programme. They will have many qualities and methods in common with existing universities, and as they become established there will be general co-operation and interaction. To a large degree the European university, with the offspring institutions in India and America, will be indispensable to the new rural university, but their services should be those of consultation, friendship and advice, and not of authority and direction.

2. *The Significance of the Indian Village* :— As free India begins to plan its course, a great increase of interest in village welfare is in evidence. This is important, not only for the sake of the villages, but for the destiny of India as a whole.

In the course of world history, seldom has the greatness of a nation long survived the disintegration cf its rural life. For untold ages man by nature has been a villager and has not long survived in any other environment. Almost every study of the subject which has been made in Europe and America has revealed that as a rule city families survive for only a few generations. Cities grow and thrive only as they are constantly replenished from the rural pepulation. So long as a nation's rural life is vigorous it possesses reserves of life and power. When for a long time cities

draw the cream of life and culture from the villages, returning almost nothing, as has been the case in India during the last two centuries, the current village resources of culture and energy become depleted, and the strength of the nation is reduced.

India must decide whether to aim at a widely distributed population, making the villages such prosperous, interesting and culturally rich places, with such range of opportunity and adventure that young people will find more zest and interest, more cultural advantages, and more opportunity for pioneering there, than in the city; or whether to run to vast centralized industries, with masses of labour taking direction either from the state or from private corporations. Natural drift will not change existing trends. Definite governmental and educational policy and a change of public attitude are required.

Considar the present state of the village. Though there are areas with clean, attractive villages, most of the more than half a million villages in India consist of mud huts with earth floors, with one, two or three rooms, with unprotected open wells. Houses are crowded along narrow crooked paths which serve also as open drains. These conditions, along with extreme poverty, result in a large amount of water-borne, insect-borne and earth-borne diseases. Less than ten per cent of the villagers are literate

to the extent of recognizing their own names on a letter. An average day's work in an Indian village produces probably less than a quarter as much wealth as would a day's work by modern methods. The villages are largely isolated from the world, and so have difficulty in getting a world view.

Picture the kind of village life which should be aimed at. It must be economically prosperous. Its life must not be wasted in primitive habits of production. Full advantage should be taken of modern technical developments. Small scale farming by efficient methods will require only a small part of the human labour needed at present, and production may be greatly increased. Much of the village population will be available for work other than agriculture. Each village, and especially each group of villages, will have a wide range of economic activity. A large part of the industry of the country should be located in villages and small towns. Every village should have good year round transportation, and should be supplied with electric power. Each one should have a piped water supply under pressure, a sewer system and a telephone system.

With good water supply, drainage and sewerage, malaria and intestinal diseases will practically disappear as they have nearly disappeared in certain other countries. Health

centres and public health care will nearly eliminate communicable diseases. Household vermin will almost wholly disappear as they have disappeared in certain other countries.

If these economic and hygienic advantages should be secured without corresponding development of character and culture, the change might be loss rather than gain. Economic, cultural and ethical education must go together.

3. *The Possibilities of Basic Education:-* At this fateful moment in our history, we have the extreme good fortune to have had presented to us a pattern and philosophy of education of such universal and fundamental worth that it may well serve as the type for bringing into being the new India which is the desire of many of us. We have no sympathy with hero worship, and feel that there should be no withholding of criticism of an educational plan because it was presented by our great leader. With some details of Gandhiji's programme of basic education we may not agree. However, taking his concept as a whole it presents the seeds of a method for the fulfilment and refinement of human personality, the wisdom and excellence of which will become more apparent through the years, and will stand the test of time and of criticism. Years of time and vast effort will be required to insure this movement against warped and mistaken expression, and

to develop effective skills and methods; yet inherently the concept is one of the world's great contributions to education.

The method outlined in its rudiments by Gandhiji is not just a way of meeting the educational needs of little children. He has stated the essential elements of a universal method of education, from the time a little child shares in its mother's work, through the whole process of growth of personality to the time when the mature man of disciplined mind and character works at the side of the master in the achievement of a great design. The essence of this philosophy is that education should combine practice in the every day processes of living and working, with more formal training. This is a fundamental concept which is steadily gaining support and application in the educational world.

Gandhiji was not the first to have this vision. Aristotle, Francis Bacon, Milton and Louis Agassiz are among the world's great men who specifically expressed a similar conviction. But in one important respect he differed from most of the others. While their minds caught the vision of a new day, the bookishness of their lives held some of them captive. Therein is Gandhiji's preeminence. No sooner was a conviction matured in his mind than he acted on it.

4. The "Basic Education" Programme:- To see rural higher education in good perspective it is desirable to have a glimpse at the elementary and secondary education out of which it should emerge. As to the programme of Basic National Education for grades one to five, the revised syllabus published by Hindustani Talimi Sangh about 1947 may be taken as a representative statement. As we have seen this programme in practice in several parts of India it seems to us in the main to be justifying the expectations of those who gave it form. A possible criticism of actual practice is over emphasis on the one process of producing fabric and cloth. This is highly valuable as a centre for correlation of learning, since clothing, like food and shelter, is a basic human need. Also it provides opportunity for children to experience skilful achievement, and to have first hand familiarity with an economic process from start to finish. However, in some cases it seems that a more distributed interest and attention to varied processes of rural life would be desirable. Basic education should introduce children to all the chief issues and interests of living. It should not become a routine with spinning and weaving as its main expressions.

These first steps of the basic education programme have been clearly defined and, in some cases at least, given able and inspiring expression. The "post - basic " secon-

dary school programme has been less fully worked out, while that of higher education has not been clearly formulated. Therefore these will be considered in some detail.

5. *The People's College:-* With adoption of the new Indian constitution the achievement of democracy is only barely begun. Fundamental changes of attitude will be necessary before what is written on paper can become the prevailing way of life. One of the key points at which democracy will fail or succeed is in the kind of education which will be made available to the common people.

Even after a vast extension of basic education, a large proportion of Indian rural boys and girls may not attend formal school beyond the seven or eight years of basic education. How, after that, they will enter into the life and thought of the nation, is not only important to them, but may determine whether or not democracy becomes a reality in India. The university, and especially the rural university has a vital relation to this problem. To indicate what that relationship may be, and how the university may contribute to the further education of this great majority of the Indian people, is essential to an understanding of the rural university.

For helpful guidance in this matter, we may turn to the programme of the People's

Colleges of the Scandinavian countries, especially to those of Denmark. Sir Richard Livingstone, England's foremost figure in adult education, called the Scandinavian People's College "the only great successful experiment in educating the masses of a nation."

When the People's College movement was initiated in Denmark a century ago the Danes were a defeated, poverty-sticken, largely unschooled privilege-ridden and dispirited people. In considerable degree as a result of the People's College movement, the Danish people have risen from ignorance and poverty to about the highest general level of education and well-being of all the peoples of the earth. Their social legislation has been sane and liberal. Danish agricultural practice has changed from a primitive state to among the most scientific and best organised in the world. All this change has been brought about with an increase, rather than a loss, of the human element.

The part which the People's Colleges have played in this transition is suggested by the fact that a third of the rural people attend them, while another third come under their direct influence. More than thirty per cent of the members of the national legislature, and eighty per cent of the co-operative leaders in a country where co-operatives play a dominant economic role,

were educated at the People's Colleges. The principal writers of modern Sweden also were educated at People's Colleges rather than at the universities.

A paraphrase of a recent description of the philosophy and method of the Danish People's College will indicate how it might suit Indian conditions, and how the rural university could further its development.

While democracy requires well qualified men and women in positions of importance and authority, yet government by and for the people requires also that fine resources of culture, leadership, and wisdom shall be maintained with good distribution throughout the population. The rank and file of men have often been deprived of their best elements and their potential leadership as a result of a typical attitude toward democracy, which is not that it eliminates privilege, but that it gives everyone an equal chance to "get ahead" of others in the competition to escape from the mass of men and join the more privileged classes.

Important as it is to keep open avenues of development for the specially gifted, society has an even more fundamental need. In leavening bread we do not aim to have the gas in the dough escape from the mass and rise to the top, but rather we desire

to trap the gas in small bubbles all through the dough, so that the entire mass will rise with uniform light texture. Our ideal for the gifted person among the common people, that he shall escape into an environment of culture and economic privilege, results in his leaving behind a yet more sudden mass of uninspired and unenlightened people. With this prevailing ideal, the very equality of opportunity of a political democracy accelerates the tendency towards a population composed of subject masses and ruling classes. For a continuing democracy it is essential that our programme of liberal education shall not promote the escape from the common people of the culture which that education generates, but shall inspire able students to remain common people, in and of people, acting as their servants and leaders, and raising the whole social lump.

A familiar sttitude among educators calls for a liberal education for a small elite group, and vocational education for the masses. John Dewey wrote, "I cannot think of any idea more completely reactionary and more fatal to the whole democratic outlook." Another suggestion is that the shortcomings of such a leadership can be partly cured by liberal colleges drawing potential leaders from all ranks of society, "by making liberal education available to all young people who possess the essential

intellectual and personal qualities." Yet, the chief issue is not where young people *Come from* to get an education, but where they go with their education.

Democracy requires leadership steadfastly loyal to the whole people. Throughout history the people's cause has often been lost by leadership becoming estranged from and even turning traitor to the people though often it had only recently emerged from the common people. The philosophy of rule by an intellectual elite, which characterised Plato, was the object of criticism by Bishop Grundtvig, originator of the Danish People's College. He wrote: "people in our day shout themselves hoarse about freedom and culture, and that is certainly what we need, but the proposals for attaining them usually have the same fundamental faults as Plato's "Republic", where the guardians of freedom and culture themselves swallow them both up, so that the people for all their labour get only proud tyrants to obey, to support, and if that can comfort them, to admire and deify."

Leadership which cannot express itself in the shoes of the common man is rather rulership than leadership. Was not that Gandhiji's message? How to achieve intellectual discipline and culture which give quality to leadership, and yet to maintain identity with the common people, is a problem which seldom has been solved. Because the Danish

people's College has contributed greatly to that solution, its methods are important. Because that problem in India may profit by a new approach, the rural university may make a significant contribution to its solution here.

It is a general assumption of the intellectual elite that a long period of study with conventional "cultural" subject matter in high school and college is necessary to produce liberally educated men. The people's College challenges that assumption. It holds that education is not identical with formal intellectual training; that men can become educated without being intellectuals, and that intellectuals are not necessarily educated men. Grundtvig wrote: "Scholarship is one thing, and education and fitness for life is another; they may well be united, but not in the case of the majority; they must not be hostile to each other. Scholarship will lead scholars astray if it is not confrontod by an education of the people which obliges it to take present-day life into consideration, just as education of the people will soon degenerate into a superficial polish if scholarship does not keep it alive." Einstein commented: "School is not to promote future officials, scholars, lecturers barristers and authors, but human beings. Whitehead similarly remarked, "The school course of classics must be planned so that a definite result (a great view of life) is clearly achieved. There has been

too great a product of failures on a road to an ambitious ideal of scholarship." The People's College aims at helping people to desire and to achieve the primary values of life, from which other values must be derived. A brief description of the Danish people's College is given in Appendix P.

II. THE RURAL SECONDARY SCHOOL
(*" Post-Basic Education"*)

6. *A Residence School Village*:- Doubtless a number of types of rural secondary school will emerge as the general principles of basic education find expression in practice. Let us picture one type as a continuation of the basic education programme.

Except where there are good reasons to the contrary, the rural secondary school should be a residence school, with the pupils living in hostels, or if feasible, in such houses as would be suitable for good village life. The grounds and streets should be planned, and the buildings planned and built, as nearly as possible like a well-planned modern village. The entire setting should be an example to the students of what their own villages might be like. Secondary school education should not make boys and girls content with living in the villages as they are. It should, however, make them familiar with practical ways of creating new villages, within the reasonable financial and social resources

available. The School village should be an example of what is desirable and practical in village planning, construction and operation

In case an entire family should wish to move to the school village, building and managing its home according to the standards of the school, the children of that family might well live at home. In such case the family as a whole might share in the educational process. There have been a few colleges or secondary schools where the young family and not the individual was the unit being educated.

In some cases it would be desired by students or their parents who reside nearby that the boys and girls should live at home and go to the school each day. This probability draws attention to two sometimes conflicting aims in the establishment and administration of residence secondary schools. On the one hand it is desirable that the student be in the school village setting where he can see village life as it might be, can free his mind from rigid village traditon, and can have that kind of living together and intimate relations with his teacher which marked the relations of the old time *Guru* with his pupils. On the other hand it is highly-important that his school experience shall not so divorce him from his village associations that he cannot and will not return to work with the world from which he came.

He should be imbued by his school experience with a desire to improve his village, not to escape from it. For some of the boys and girls to continue to live at home might help the school to keep that desirable association, but it would be unfortunate for the students as a whole to do so. Residence schools should not be allowed to wither because of supposed economy to the parents or to the government. The People's College programme with its residence schools has been singularly successful in arousing a desire for progress without leading students to abandon their villages.

Small units of 150 to 200 students will be far better than mass schools of many hundreds. A school for 150 students should have probably 30 to 60 acres of land, depending on circumstances. Perhaps 10 or 15 acres of this should be for school house, hostels, homes for teachers, playgrounds, workshops and industrial sites. The rest should be for agriculture, forest and pasture.

The secondary school village as a rule would serve a group of villages, and should be conveniently located with reference to them. In case of the reconstruction of villages, as hereafter proposed, in some cases provision may be made in them for secondary school plants, with suitable land and environment. In such cases secondary school students might live at home, or part at home

and part in hostels, as would be desirable. While every normal boy and girl should have opportunity for continued schooling after the 7 or 8 years of basic schooling, the provisions suggested are estimated to be adequate for the next one or two decades.

The first cost of small residence secondary schools may be higher than buildings for mass education, but not necessarily so. The buildings may be very simple. Research is finding ways to use local materials and labour to make permanent structures. In so far as possible the school village should be built by the pupils and their teachers working together, with the help of a person trained in village and school planning. During construction of the school village pupils and teachers would live in temporary shelters, or return to their home villages at night. The cost of bringing students by bus each day from the several villages would be eliminated. Nearly all the work of maintaining and cleaning buildings and grounds, preparing food and doing other necessary work, could be done by the students as part of their practical education. This is less feasible where the students live at home and attend school in large masses.

7. *Learning by Living*:- Residence school students not only profit from their studies but, under the leadership and companionship of teachers of mature character and culture, they may learn a way of life

together. It is largely through personal friendships, acquaintances, and mutual trust that society holds together. "The old school tie", a powerful element in social organization, has hitherto been limited to a small social class. The old school ties of residence secondary schools and People's Colleges will be threads of acquaintance and fellowship over larger areas than the village, and will help toward widening social understanding and unity.

The life of the school should follow the course of life of a good village, except that about half the working time would be given to study and about half to practical work. Some work such as cleaning the school village probably should be done by everyone, teachers and pupils working together. There are some kinds of work with which nearly every pupil should become familiar, such as child care, cooking and home keeping for girls, and agriculture and the use of household tools for boys and girls. The school should raise most of its food and should teach boys and girls how to make the land yield as much as possible.

The practical work should include farming, building, carpentry and cabinet making, housekeeping, weaving, street cleaning and other useful village work. It should also include one or more modern industries, manufacturing goods for sale. So far as trai-

ning in a modern industry is concerned, a two to four year period of work in a secondary school industry under skilful teaching, along with related study should produce highly skilled workers, ready to perform many of the more exacting processes in new industries in new secondary school villages. Some students would continue more advanced training.

As boys and girls grow older, the periods of uninterrupted work will naturally grow longer. Rather than work and study for a part of each day it probably will be well to divide the students into two shifts, each shift working or studying alternate days, or more probably alternate weeks or fortnights. It would be desirable for some of the part time work of each student during his secondary school years to be away from the school village, to give him a more representative view of practical life.

8. *The Rural Secondary School Programme:-* Little by little many boys and girls would find desirable callings and would begin to specialize. For many, the secondary school period would complete the schooling and their special training. Others would find it desirable to go to more advanced rural schools or colleges.

In their study periods the pupils should be getting an all-round well proportioned edu-

cation. Where feasible the subjects of study should be related to or grow out of the practical work and life of the pupil. However, as boys and girls grow older it will be found increasingly desirable to follow some orderly courses of study, sometimes regardless of their own experiences of the moment. They should become acquainted with the physical environment as disclosed by geography, geology and astronomy; with the physical sciences in physics and chemistry, and with the world of living things in biology. They should get a general knowledge of the history of their own locality, of India and of the world, and should be introduced to some good literature. They should have enough mathematics to serve their practical needs, and a general knowledge of local and national government. Their studies also should help them to understand the theory of their work. Physical education should be universal. To select subject matter and to distribute the available time among the different subjects, so that these fields shall be covered without overcrowding the students' time, will require thorough preparation by those planning post-basic education.

Even more important than the imparting of information is the development of habits and attitudes of mind and spirit. The habit of openness and honesty is a tremendous source of national strength and so are habits

of goodwill and fair play. In training teachers for secondary rural schools these qualities should be the first consideration. The scientific attitude, that is, the habit of free, critical inquiry, of looking into actual facts and causes, rather than credulous acceptance of rumour or tradition, would put new life into India.

In its industrial work the rural secondary school should aim at creating a new industrial tradition. It has been assumed that the industrialist works chiefly for profit, whereas the teacher works chiefly for service. There is no inherent reason why these different callings should be carried on with different motives. The tradition should develop that rural industrialists deserve reasonable and decent living and economic security, but that beyond these standards all earnings should go to strengthening the industry, accumulating reserves for expansion or against depression, founding new industries, for new secondary schools, improving quality, lowering prices, or raising wages and bettering working conditions. It is a curious delusion that amassing a fortune gives greater satisfaction than does good citizenship. Rural education should aim at changing that tradition.

Even where there are programmes for village improvement which provide for nurses, health advisers, agricultural extension workers and others to live and work in the villages,

such plans are handicapped, or even break down, because of the unwillingness of such persons to live in the villages. Secondary school villages, planned and built according to approved standards, would be suitable centres for rural clinics, rural library service, agricultural extension work, co-operative banking, and other village activities. Such services could become parts of the secondary school training programme. Through the school system they should be integrated into a unified process of social education, and should not continue as competing activities of unrelated departments. The secondary school village thus might well become the cultural and service centre of a group of villages, and might go far to insure the success of these various services.

9. *Self-support in Basic Education*:—Basic Secondary education can develop a large element of self-support, and can be better education than that which is wholly supported by taxation. A substantial degree of self-support may not be achieved at once, for the methods of that type of education and competence in economical production, must be mastered. No specific amount of self-support should be made imperative. The educational development of boys and girls should be the first consideration, but experience in competent and responsible production will be found to contribute greatly to such development. Generally the land, buildings

and equipment should be supplied from public funds. If boys and girls do part of the work of building, then their labour should be paid for at a fair rate from public funds, for otherwise, in order to be self-supporting, it may be necessary for them to use all working time to produce for immediate use or sale, and the educational value of building might be lost.

For basic secondary education to be in some degree self-supporting, it is necessary that living standards of great simplicity should prevail. The tradition of our country has largely been of hovels and palaces, with almost nothing in between. The basic education secondary school should be an example to young people of the truth that simple, inexpensive living can be clean, convenient and attractive living. Self-support must ccme partly by restricting wants to very simple living, and partly by increasing income.

Fear is sometimes expressed that any element of self-support may lead to exploitation of child labour. To provide boys and girls with all-round education, and to train them for specific competence in some field, is a good way to reduce exploitation. The entire spirit and atmosphere of the basic education programme, and the sensitiveness of democratic government to charges of exploitation, can be relied on to protect them from excessive toil.

10. *Division of Labour in Basic Secondary Schools:*— The division of labour in

secondary schools should probably be different from that in the first years. Probably some labour should still be shared by all, such as a half hour for general clean-up in the morning. Most work should be divided, with each student having his or her definite duties. The duties of a student may be changed from time to time so that he or she can become acquainted with many kinds of work.

A convenient way of dividing work perhaps would be to have most students work and study every other week or fortnight. In one such period about half the students would be at work and the other half at study. During the following period those who had been studying would work, and those who had been working would study. Thus one set of teachers would teach two sets of students. Some members of the staff would give their whole time to supervising students' work. This programme has been used successfully in some secondary school for thirty five years. In some cases the alternation of work and study might be influenced by the seasonal needs of agriculture and climate.

Every boy and girl in basic and post-basic education should be able to perform almost any common, necessary duty. In line with the spirit of the new Indian constitution every boy and girl in a basic and post-basic education school should make the following resolve: I shall never ask nor accept from

any person any menial service that I would not gladly do for him or her, or for others.

11. *Short Time Technical Courses*:- Perhaps associated with secondary school villages should be provisions for short term technical courses, somewhat parallel with People's College sessions. For practical workers in many fields to have even one or two weeks a year of training and experience in a good shop with good supervision might in many cases quite change the degree of understanding and skill with which they would do their work. If mechanics, craftsmen and technicians of all sorts should develop the habit of attending short courses in their special fields for from a week to a month each year or two, receiving instruction and example from the most competent persons in each fileld, the general quality of technical work and of craftsmanship might be greatly improved. Such short courses might be given at both secondary school villages and at rural universities. Different schools or rural universities might develop reputation for skill and leadership in different fields.

12. *The Duration of Rural Education*:- The duration of the rural post-basic or secondary school period should be related to the entire span of education. One suitable distribution of this entire span would be:

8. years for basic education,

3 or 4 years for post-basic or secondary education,

3 years for college,

2 years post-graduate university work for the master's degree.

An alternative distribution of time would be 7 basic, 4 post-basic, and 3 for college. As the value of education is better realized, and as the material resources of India increase, there probably will be a tendency to reach a programme of 8 years basic education, 4 years secondary education and 4 years of college to the equivalent of the bachelor's degree. The expression "college" in this connection refers not only to education leading to an academic degree, but any education beyond the secondary school, whatever may be its form.

While it probably is desirable to consider a regular period, as 3 or 4 years, for post-basic or secondary schooling and 3 or 4 years for college, these would be only general guiding standards. Some students entering secondary school may be well prepared for their life work in two years, some in three years. The aim of the school should be to help the student to most effective living, so far as the educational resources justify preparation. In a four year secondary school programme for instance, there should be no

sense of failure for the student who comes to the end of his productive period of study in one or two or three years.

III. Post-basic (Secondary) Education and Village Industrialization.

13. *Industrialization is inevitable:*—One of the issues which troubles the basic education movement is the extent to which modern industrial processes shall be welcomed in the villages. India will surely industrialize. To pump irrigation water by muscle power as in India requires more than a hundred times as many man-hours for a given result as by modern methods. The difference in labour between hand and machine spinning is very great, and nearly all village weavers prefer the machine spun yarn. (Hand weaving has greater possibility for survival than does hand spinning.) The makers of handmade padlocks in India are finding constantly greater difficulty in competing with machine-made padlocks from other countries. The village blacksmith is losing to the big factories in Indian cities his trade of making agricultural implements.

Industrialization is one of the great basic changes in human living, perhaps as fundamental as the change from hunting to settled agriculture. It cannot be stopped, but can be guided into wholesome channels. The energy and devotion needed to guide Industrial development in India, so that it shall

serve widespread decentralization on a high economic, social and spiritual level, should not be dissipated in trying to prevent it.

The next few years may largely set the pattern of Indian industrial life for a long time. If there is clear and prompt recognition of the need and possibility for distributing much of modern industry through the villages and small towns, the prosperity of modern industry may be diffused through the whole country. If there is effective opposition to specialized modern industries in the villages on the ground that each village should be a self-contained, independent unit, these may concentrate in the cities.

14. *Decentralized Industry*:— A very large amount of small unit industry is feasible, though a part must be in large units. People looking at America from a distance see only the towering industrial giants. Yet there are many thousands of thriving small industries in that country, and there would be more but for the cult of size and power which seeks to grow large, just as a ruler might wish to add to his dominions, even though the administration might not thereby be more efficient.*

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*The efficiency of American manufacturing rests largely on the use of machine tools in place of manual skill of craftsmen. The machine tool industry is greatly decentralized. While there are perhaps half a dozen large firms, all together they employ probably less than a fifth of those employed in the machine tool industry as a whole. The others are

Over half the business of America is done by small and medium sized firms. These are on the whole more profitable than the great industries, as is disclosed by several public and private studies. While some industries are growing larger, others are decentralizing, and many are moving from

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employed by hundreds of smaller firms, scattered over many parts of America. Some of these small firms are located in villages, some in small towns, some in cities. Many thriving machine tool factories employ only ten to fifty men, others up to five hundred.

The grinding wheel industry, also important to manufacturing, is scattered over a large number of small plants. One company, which uses eheap electric power to manufacture carborundum, has about 3,000 employees. The rest of the grinding wheel industry is divided among many firms employing from half a dozen to five hundred men.

Many parts of the textile industry are also highly decentralized. This is true of factories making carpets, "rayon", yarn, men's shirts, women's dresses, underwear and hosiery. Many of these factories are in villages or small towns in various parts of America. These are only illustrative cases.

It is interesting that the foreign goods which have been best able to invade American markets during recent decades were not made in the great industrial plants of England or pre-war Germany, but were products of small scale industries of Switzerland and Japan. Today about 80% of the watches sold in America are made in the relatively small industries of Switzerland, while some of the great American watch factories have difficulty in surviving. Yet Switzerland has about the highest wage scale and living standard in Europe.

cities to rural areas. Small and medium sized business is very much alive in America, and can be in India.

15. *Industrial Inter-relations*:- In the modern world the village will steadily lose the status of an independent, self-contained economic unit, but at the same time it can become far more important as a basic unit of society, out of which the larger society is built. Village people want books, radios, watches, bicycles, metal goods, electric power, and railway travel, which cannot be produced by each village for itself. The world is becoming constantly more inter-related. That inter-relationship will be best if each of the units has a vigorous, definite existance of its own, while it co-operates with others.

It is a mistaken aim to atomize India in to nearly unrelated villages, as though inter-dependence were itself an evil. A better social aim is the growth together of independence and of inter dependence, each where it is most appropriate. Not the *greatest* degree, but the *best* degree of local self-sufficiency should be the aim.

If the village does not industrialize, the actual result will be that urban industry will take over all those processes that are most profitable, leaving to the village the unprofitable operations. As industrialization

spreads over the earth it becomes increasingly true that handicraft workers receive very small pay for their work, and even then the products are commonly luxury goods, sold to wealthy people.

The development of secondary rural education should presume decentralized, well balanced, progressive industrialization. In fact a considerable part of the vocational training of post-basic schools should be to prepare boys and girls no longer needed in agriculture for other callings. The industrial development of India is being handicapped by the lack of workers who are skilled in hand and eye to fill positions not requiring full professional training. As rural industries develop, the rural secondary schools should go far to meet that need.

IV. A Programme for the reconstruction of Indian Villages:

16. *The Future of the Village:*—Without some picture of what the future of the Indian village may be, the future of rural education cannot be clear. In trying to understand the problem of secondary and higher education for the people of India who live in its 600,000 villages, we seem at first to come up against a stone wall which makes progress all but impossible. That "stone wall" is the present condition of the Indian village. Anything in the nature of broad, liberal

education in the modern spirit will surely make villages more keenly aware of the inadequacy of the village, and in many cases of the futility of trying to make it livable. Except as some generally effective way is found for dealing with this condition, any plans for rural higher education will in effect be plans for driving more people from the village, and therefore for the further impoverishment of the rural life of India. A clear cut, comprehensive and adequate solution of this problem is imperative. The following statement, we believe, outlines such a solution.

Over a large part of India the village is obsolete, not fit for human habitation. Of the 600,000 villages in India, there are probably many thousands to which this statement does not apply. In a few localities villages are reasonably fair places of residence. But in the main it seems to be true. While the destiny of India depends on the vigour, the health, the culture and the intelligence of the villages, the village *has* declined and *is* declining. Only if the realities are faced will there be a chance to guide the course of events toward a great destiny for the nation. The problem of the village in most cases requires its complete relocation and reconstruction.

One of the greatest handicaps of the Indian village is the lack on the part of the

villager of any clear, full picture of what a good village might be like. If there should be a fine modern village here and there, if the villager should get a clear picture of what a good village would be like, and if he should learn by practical example of the steps he could reasonably take to have such a village, then his day-by-day comparison of that village with his own would lead him to have a powerful desire to get what he has learned to be practical and desirable. As to every phase of village life it should be the business of rural education to develop clear pictures of what are desirable and practical living conditions, and to provide examples of such conditions.

This picture of village life should not be limited to wellplanned physical layout and to varied opportunity to make good livings. Of no less importance are habits of neighbourliness and good will, of co-operation, and of dependable, fair dealing with one another.

The situation of the village is not hopeless. In fact, we are constantly impressed by the vast potential human resources ready to become alive and to spring into action if they are but freed and encouraged by public policy and by private example. So far as material resources and human energies are concerned, the wholesale relocation and reconstruction of our villages is entirely feasible.

The great material wealth of mankind is not its stored wealth, its hoarded gold, its cities, railroads, ships and factories, but the current year by year production of wealth by the people. The potential wealth-producing capacity of men is almost incredibly great. What are lacking are not natural resources or human energy, but a clear mental picture of what is desirable and possible, and the character, skill, experience and culture necessary to realize such possibilities. These qualities it is the main business of rural education to provide. India has such vast natural and human resources that, given these qualities, the average Indian might have many times as much wealth at his disposal as he now possesses. If even ten per cent of our potential resources should be realized, India and all her people would be rich.

17. *Reconstruction:*—The construction of new and fine villages throughout India may become a great national movement. More over it may be carried through to a considerable extent without the financial help of the central or provincial government. As public fiscal policy can be readjusted, public money received from the taxation of rural lands should mostly be returned for the use of rural education and for village improvement. Except for great undertakings beyond the limits of local control, the carrying through of public projects may usually be more econo-

mical and more productive by local initiative. The handling of such projects by local initiative may become a school for democracy, thrift and responsibility. As an example to be generally followed in this particular kind of development, the T. V. A. (Tennessee Valley Authority in America) may be misleading. Despite the widespread publicity of the T. V. A. and the use of expressions concerning democracy, the T. V. A. is not fully in the line of the democratic tradition.

There is a tradition in the United States which has worked and spread so quietly that its vast achievements have been scarcely realized, even in America. This is the habit of creating local or regional limited governments for special purposes. These little special purpose governments are often in the form of special assessment improvement trusts. They are created by the people interested, for such purposes as reclaiming wet lands, creating parks and recreation districts, and in some cases for developing water supplies for groups of towns.

Following such a method the central or provincial government might provide the laws necessary for such local, democratic initiative, so that villages or groups of villages may work out their own plans. Indian provincial governments should use a considerable part of the funds received from land taxes to improve the condition of the villages. The

central government may provide samples of good development, so that the people can see what is possible. To get such a movement started, in any district the central or provincial government may agree to pay half the cost of the first undertakings, and perhaps a quarter or a third of the cost of other undertakings. Also the central or provincial government, and especially the rural university, can carry on research as to the best methods. Governments might well have power to prevent borrowing money for any plan which is not honestly or competently developed, or which would probably be a loss or a disappointment to the people. They could develop a variety of plans and suggestions, and provide skilled advice which might be beyond the reach of local organization. Many villages are too small to provide the range of services, interests and associations necessary for most satisfactory living. Research to determine the most desirable size might result in consolidation of some of the smaller ones, and the grouping of villages with some services in common.

With proper legislation providing for village trusts for such reconstruction, a village could rebuild itself quickly, and the added tax, spread through twenty years, probably would be no more than is now paid for various poor services. The land of the villagers would be security for the cost. Much of

the work they could do themselves under skilled direction.

If such a movement is made possible by wise legislation and by a limited number of sample cases, it will spread so fast that for many years there will not be enough village planners, sanitary engineers, house builders etc., to meet the demand. In some parts of India dissatisfaction of villegers with present living conditions and desire for radical improvement are becoming strong. Unless they are met by an effective programme they may soon grow into menacing political discontent.

The very process of planning and rebuilding the villages can be made a programme of basic education for the whole village population. Here the counsel of rural universities and of the central and provincial governments will be desirable. Many meetings will be necessary to discuss villege plans. The needs of sanitation must be understood. The best design of homes must be worked out. The width of streets must be decided. The space needed for a basic school must be talked over. Locations for village industries must be provided.

A movement for village reconstruction should not be forced beyond what people appreciate and want. The village people should not be coerced or dictated to, but they

should be helped by competent specialists. So far as possible these specialists should be men and women from villages who have been trained in rural secondary school, rural colleges and rural universities. Such a movement would grow slowly at first. This would be necessary for there would not be an adequate supply of men and women trained for planning and building. A decade or two might well be spent in getting well under way, learning from the first cases how to be more competent.

Each year in the natural course of events numerous villages are relocated and rebuilt. This is made necessary by the construction of reservoirs in river control projects, by the caving of river banks, by removal to escape malarial conditions, in constructing new villages for refugees and for a variety of other reasons. Each such change can be made the occasion for replanning and rebuilding villages on modern lines. The central government and each provincial government should provide in one of its departments a person or a small staff to keep in touch with all such cases, and to advise on plans and methods of relocation. The central government staff should include a research centre for community planning, methods of construction and methods of administering relocation and reconstruction.

The villages of India are a vast reservoir of human energy, intelligence and aspiration,

must of it now wasting in futility. Indian boys and girls start out in life alert, curious, eager, to live and to learn. The dull hopelessness of their environment kills this spirit in many, so that as men and women they become conservative and inert. Give the villager a picture of a good life, with health, cleanliness, variety of occupation, place and time for recreation, and a feeling that his hopes may be fulfilled, and the energies of the people will make a new rural India, a fit and fine dwelling place for a great people.

V. *Rural Colleges and Universities.*

18. *General Characteristics:-* The general advancement of rural India will call for an ever increasing range and quality of skill and training. To supply these and to meet the requirements af an educated citizenship, a system of rural colleges and universities is necessary. A new beginning is desirable, with freedom to create a distinctive tradition as to purposes, spirit and methods.

The crowding together of thousands of undergraduates, as in the case of some existing universities, is highly undesirable. A way should be found to combine the advantages of small resident undergraduate colleges where there are close relations between teachers and students, with the advantages of fully developed universities which offer a wide range of specialized and advanced

educational opportunity to advanced students, or to other students with specialized interests.

As a general type of arrangement, it is suggested that a rural university should include a ring of small, resident, undergraduate colleges, with specialized and university facilities in the centre. The suggested number of students for each of the undergraduate, resident colleges is about three hundred, and that of the maximum over-all enrolment for colleges and university combined, about twenty-five hundred.

Each college of about three hundred students would have separate teaching staff and facilities so far as its basic courses are concerned, except that undergraduate libraries, laboratories, gymnasiums and hospital facilities might be shared by as many colleges as should prove desirable. The aim of each college would be to equip its students with a general educational foundation, and to encourage the development of individual aptitudes and interests as they appear.

In some cases undergraduate students would be well qualified to undertake professional or other specialized studies in some particular fields. It should be posible in such cases for them, while still undergraduates, to carry single courses in university or professional school. Each student should have oportu-

nity, without sacrificing the core of general education, to begin specialization at whatever time he is ready for it, even at the risk that he might later change his field of occupational interest. Some students have clearly defined occupational bents at an early age. They will make better progress, take more interest, and have more normal personal development if such dominant interests find early expression. Similarly, there should be no hard and fast lines between undergraduate and post-graduate education. A student might be an undergraduate in most subjects, and yet in some field of special interest he might be doing post-graduate work. The college and university programmes should be flexible enough to serve such cases.

19. *Work and study:—* In rural colleges, as in rural secondary schools, general studies should be united with practical courses, so that those who attend college shall become cultured, educated men and women, and also persons trained and skilled in some field, or prepared for further advanced training. Probably the greater part of rural college students will not have further schooling, except for "refresher courses", and so their college years should include occupational preparation. Also as with rural secondary students, rural college students may spend about half their time at studies and half at practical work. The working and study periods probably should be longer than in a secondary school, the inter-

vals of work and study being perhaps 5 or 10 weeks each. A part of the staff of the college or of a group of colleges should be engaged in securing suitable working opportunities, and in supervising students during their working periods. Such working positions might be located anywhere within several hundred miles, in a great variety of fields. This programme of work and study has been developed in some places in Europe and America through more than thirty-five years, and has been successful. In America a steadily increasing number of universities, technical institutes and similar institutions now use it. The colleges as a rule may develop their own industries and other economic activity, which might well be more specialized and more exacting than those of rural secondary schools.

There is a tendency in university circles to look upon alternating work and study, and also upon "practical" courses, especially those calling for manual craftsmanship, as suited to inferior minds, while professional courses are for intellectuals. This separation of skill of hand from skill of mind has greatly retarded the mastery of the physical world and has been a major cause of poverty, especially in India. Practical work should not leave the worker in a "blind alley" without continued opportunity for advancement. Practical skill should be looked upon as equal in dignity and worth to purely intellectual skill. Like scholarship, it should be recognized

with ascending grades of achievement and opportunity, so that a man who develops high ability with hand and eye may have an open road to advancement equal to that of the purely intellectual worker. [1]

20. *The curriculum of the Rural University:*— The great cultural values are not peculiarly rural or urban, but are common to all humanity. As described in this report under *General Education,* a common core of liberal education may be assumed for the rural university as for any other, though the methods used in teaching and in learning may be different. This common core would include substantial introduction to the fields of mathematics, chemistry, physics, geology, astronomy, biology, physical education, psychology, the social sciences, philosophy, and language and literature.

As to advanced and specialized subjects, no field of human concern should be foreign to the rural university. The rural setting should be seen as a suitable environment for the full sweep of human interests. Yet interests and possibilities especially related to rural life

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[1] Some great contributors to astronomy have based their work on their unusual mechanical skill. Charles F. Kettering, famous research man, head of research for General Motors, and recent president of the American Association for the Advancement of Science, in his early years worked out his own ideas with his own hands as a mechanic. So did Henry Ford.

should have explicit attention, and the way should be prepared for their realization.

While there should be many common elements for all students, the curriculum should be made to fit the needs of individuals, and not the students made to conform to an arbitrary curriculum. By the time students reach college, if they have been well advised and have had the practical work experience described elsewhere, many of them will have definite ideas of the work they want to do. With the help of their teachers they can combine courses from several fields to meet their individual needs.

For instance, a man planning to direct public water control projects may combine engineering, law, business, and public administration. Lawyers as a rule are quite unable to understand technical engineering matters, while engineers are commonly ignorant of law. Both are frequently unacquainted with business methods. Yet all these elements are needed for effective management of such projects. A combination of law, engineering and business in some cases has made men exceptionally able to handle important work which involved them all. None of these courses would be standard and conventional, but those elements in each field would be included which taken together would make well-proportioned preparation for the person concerned. A large number of such possible

combinations might be cited. Many students without definite aims would follow more general programmes. However, to become competent in all the chief activities associated with some field is a great help to personal success and to social usefulness.

Rural secondary and higher education should constantly explore the changing needs and opportunities of Indian life, and should make sure that their programmes are planned for the conditions of today and tomorrow, and not for those of yesterday. Both the general programme and the combinations of studies of individual students would be influenced by such continuing inquiry. Intelligent appraisal of current needs for men in various callings, and of the prospective supply of such needs, will be generally effective in guiding students' vocational choices, and will be far better than arbitrary limitation of vocational opportunity.

The flexibility and adaptability of the programme outlined above require freedom for creative education. That freedom would be destroyed by any system of uniform, external examinations.

In education the rural university student can prepare for administration and leadership in primary, secondary and higher rural education. In agriculture he can prepare for leadership in production, marketing, breeding,

and agricultural co-operation. He can prepare to participate in agricultural extension work, in the organization of youth and adult study and working groups, and in agricultural research. He can become skilled in the processes of planning and rebuilding agricultural villages, in the consolidation of small agricultural holdings, and in many other phases of rural life. The student interested in industry should study the design and improvement of machines and processes. He should study the methods by which many small industries can co-operate in purchasing, research, marketing, in business ownership and management. The curricula of professional and specialized subjects should first of all deal with those fields which are or should be of major concern to rural life.

The student of the rural college or university should not be isolated from the life of his time. Should he make a deliberate choice of urban living, no barriers should be put in his way. Rural life should be made so interesting and productive, so full of opportunity and adventure, that it will be preferred. The aim of rural education should be to make it so.

Rural India is a great reservoir of creative life, but the pattern that life shall adopt is not yet determined. The future society may take any one or more of many directions, some better, some worse. The range of possibilities

may have few limits except the capacity of men's minds and spirits to create and to live by patterns of excellence. So far as our rural population is concerned, the development, enlargement and refinement of that design should largely be the work of rural education. The curriculum of the rural university should be guided by that responsibility.

VI. Some concerns of Rural Universities

21. *Rural Professions:-* In a rural India in process of active development some new or relatively new professions will be useful. Some of these may be peculiarly rural and others common to both urban and rural life. Among professions or branches of professions in the development of which rural universities may well participate are various phases of water control engineering, soil improvement engineering, temperature control engineering, food processing technology, "Chemurgic Engineering", ocean products technology, mineral processing, rural industrial counselling, rural public administration. rural social welfare, rural land and village planning, social engineering, rural sociology and anthropology, rural arts, and rural medical service. Suggestions as to possibilities which the rural university might prepare for in the professions are made in Appendix Q.

22. *The Social Attitudes of the Rural Professions and of Business:-* Our educa-

tion must find its guiding principle in the aims of the social order for which it prepares, in the nature of the civilization it hopes to build. Education is the great instrument of social emancipation by which a democracy establishes, maintains, and protects the spirit of equality among its members. [1]

In the past it has been assumed that men who are successful in the professions and in business are justified in acquiring as much wealth as they can without dishonest means, and to live on whatever scale of expenditure such wealth makes possible. A democratic society requires a very different spirit. While recognizing such factors as the greater time and expanse required for professional education or for business preparation, and the greater obligations of men in responsible positions which require expenditures, the spirit of democracy will not make these the excuse or justification for a standard of living far beyond the hope of achievement of the general population, even in a well-ordered society. The tradition should grow among successfull men that simple and unostentatious living which is not a burden to society is the only way of life which comports with the spirit of the new India.

All universities, urban and rural, should share in bringing about such a change of spirit of business and the professions. Yet it is the part of practical wisdom not to lose any oppor-

tunity afforded by favourable conditions. The creation of rural universities, inheriting the spirit with which Gandhiji infused the basic education movement, offers opportunity for giving a fresh impulse to such a change.

23. *What is a "Profession" in Rural Education?* Members of some of the older professions may be inclined to take offence when the word prefession is applied to many fields of work. The difference between professions, practised primarily for human service, and business and industry followed for profit, has largely disappeared. Also, the time has passed when scholarship and disciplined preparation were the marks of only a few traditional fields. Any useful calling for which a high degree of preparation has been needed and has been made, and which is pursued in a spirit of of service to the public, deserves the name of profession. The spirit of democracy will not tolerate the monopoly of that term by any privileged group. It is a mistaken idea that there is any field of neccessary human effort which will not respond to a high quality of preparation, and so deserve the name of profession. Just as the despised calling of scavenger has emerged as the honoured profession of sanitary engineer, so can every neccessary human work become in truth a prefession. The rural university should strive constantly to increase the number of useful occupations which in outlook, skill and spirit

of service have been raised to the status of professions.

24. Rural Education and the Great Traditions:-There are several great traditions in human culture, each the product of a long past. Their existence depends on unbroken continuity through the centuries. If the continuity of one of these traditions is completely broken, centuries may be too short a time for its rebirth. Some cases will illustrate this.

The great tradition of agriculture is the accumulation of centuries. No man who is cut off from that tradition becomes a good farmer in one generation, though a business man may succeed in farming by the help of workmen who do have that tradition. Another great tradition is that of medicine. No person can discover or invent the art of medicine for himself. It is the same with business. Even the self-made business man profits by the experience of those who have gone before. Another great tradition is that of home making. No woman becomes a great home keeper solely from her own genius. At the back of a finely managed home are centuries of accumulated tradition of home making.

Scholarship is another of the great traditions. With all their faults, existing universities and other similar institutions are almost the sole carriers of the tradition of scholarship. Organized knowledge and disciplined thinking

cannot be quickly created anew, no matter how great the native intelligence, nor how strong and sustained the enthusiasm.

Here, then, we have the dilemma of the rural university. It would modernize agriculture, but must work with farmers, often with men burdened by ignorance, credulity and conservatism, while they possess the wisdom of the ages. The rural university would build rural industry in a spirit of good will and mutual helpfulness, and without being controlled by the traditional passion for maximum profit. The rural university would build a health service for the people of rural India in the spirit of social service, moderate income, and a sharing of the common lot, but it must begin with doctors, some of whom have been trained in the doctorine that the physician is a superior person who, if he can, will live in luxury even at the expense of patients who cannot.

Finally, the rural university must have scholarship, and this it can get chiefly from the existing universities which, along with the great tradition of scholarship, also are full of unimaginative formalism, pedantry, petty ambition, timidity or cowardice and lack of practical contact with real life.

Out of these materials, how is the rural university to realize its aims of building a new and fine rural India, and of releasing the

vast creative energies of Indian life, now so tightly bound in the chains of privilege, prejudice, exploitation and ignorance? There are two things the rural university movement can do. First it can define and clearly express its own purposes. This is one of the primary duties of those who would build a new rural India. Second, it can constantly search all India and all the world for those exceptional persons who, while making themselves masters of one of the great traditions, such as agriculture or medicine or business or scholarship, have nevertheless held to the greatest of all the great traditions, that of committing their lives and all they have to the service of their fellow men. As such men find each other and work together they can create the basic elementary school, the rural secondary school and the rural university, and through them the new India.

25. *The Great Traditions of Common Life:-* In primitive societies children learned chiefly from watching, listening to, and imitating their parents, their neighbours, and older children, and by their own experience. Little by little people learned that some special skills or knowledge can best be taught by formal, organized education. Thus schools and universities came into existence. Yet always there remain the informal skills, disciplines and judgments of everyday life, which are not included in formal education, but must be picked up by the child from informal,

everyday experience. The parts of the child's development which are formally planned come to seem important to those who plan and administer the schools, while the parts which are left to informal contacts are overlooked as of small importance, or are forgotten. Yet they continue to be very important, perhaps more important than all the matter included in formal education.

Rural education, like all education, should not limit itself to the processes of the schoolroom, but at every stage from primary school to university should insist that pupils and students shall learn also from the great traditions of common life.

These great traditions are among the most priceless treasures of mankind, of more value than our material possessions. One of the chief criticisms of the present system of education is its tendency to rely on verbal description rather than on actual participation, and thereby partly to lose the essence of the great art of living. The process of violent revolution, which would destroy the social structure to do away with inequality, may destroy precious, hard - won elements of the great traditions, and set back humanity many centuries toward barbarism.

The method of basic education from elementary school through the university, on the part of the student calls for intimate parti-

cipation in the life through which these great traditions are expressed and perpetuated. By such participation ,as well as by formal learning, he comes to inherit fully those traditions. It is the part of teaching and leadership to share with the students in this participation, and to so guide and inform it that the great traditions, in the process of being inherited, shall be purified, enlightened, enlarged, and made to express the basic aspirations of men for understanding, for justice, liberty, equality and fraternity and for effective mastery of their environment.

26. *Rural Education and Research*:- Just as democracy cannot be maintained by a small educated class, but must be based on the education of the whole people; so the full advantage of modern science cannot be secured by a few able scientists working in a few well-equipped laboratories, but requires also that a spirit of open minded, critical inquiry shall pervade the whole population. The poverty of India is largely due to the general absence of this spirit. Much work is performed in the same way generation after generation, though the methods might be greatly improved. This is due not to inborn limitation, but to long standing traditions of conformity. Our children have curiosity and active interest. Our scientists have proved their ability. If the spirit of free, critical, objective inquiry becomes general, not only will everyday working methods improve, but

from the many boys and girls with open, inquiring minds great scientists in many fields will emerge.

Development of the spirit of free inquiry should be a chief aim of basic education, and of the secondary and higher education which grow out of it. More important than the teaching of any particular subject is encouragement of the spirit of free inquiry in every field.

Our thoroughly trained scientists with their well equipped laboratories are highly important to our country. Many important problems of rural life cannot be solved by simpler means. Rural universities should have such scientists in such laboratories. But that is only part of the story. Not all research must wait for university degrees or for scientific equipment. Wherever there is an active inquiring mind there is opportunity for research.

Some of the great scientific and practical developments of modern times have been the work of men who had neither university degrees nor scientific equipment. The Wright Brothers built their first airplane in a bicycle repair shop while some world famous scientists were declaring that such flight was impossible. Gregor Meden whose discoveries of the laws of inheritance place him among the foremost of biological scientists, was a village priest with no laboratory but a

garden patch and some pigeon coops. Langstreth, who advanced the art of bee keeping more than all men before him for two thousand years, was a preacher who had to give up his preaching because of serious illness, and who used for research the occasional periods when he was well enough to work. His laboratory was his little workshop, his carpenter tools, and his hives of bees. James Watt, Robert Owen and George Stephenson, pioneers of the industrial age, were men of little or no schooling and without scientific laboratories.

The day is not past for such pioneering. There are many pressing problems, some of them among the most important which face our rural life, which require little or no laboratory equipment or scientific apparatus for their study. Library facilities are generally essential to save waste of time in repeating work other men have already done, but in some cases a few hundred rupees even less will provide the necessary published material. Some men will let the years slip by as they mourn the lack of research facilities, while others with no more opportunity, but with strong scientific spirit and desire for human service, may be making scientific history. The rural university will do well to accomplish what it can with what it has, even though its facilities seem inadequate.

This is not suggestion for reducing public expenditures for research. Much that is highly important for national welfare requires laborotories with complex and expensive equipment. A nation which omits such investment will pay heavily for its neglect. But along with research requiring large investment there are very many opportunities for men of scientific temper, opportunities which need not wait upon large appropriations.

In Appendix R are some suggestions for varied research projects of great importance, most of which can be worked at with very simple laboratory equipment, or with none at all.

VII. The Government of Rural Colleges and Universities.

27. *A Distinctive Pattern :-* Since rural education must evolve its own distinctive pattern, there is no need to follow traditional forms in educational administration. One general policy should be observed, namely, that rural education should be administered in the main by persons who have been directly concerned with rural life and with rural education of the modern type as recognized by the basic education movement. However, to guard against the tendency for a new movement to become another orthodoxy with its own static dogmas, the administration of rural universities would do well to include a substantial

minority from entirely outside its field, to contribute objective judgment and criticism. In the long run it may prove desirable for all education to have a common structure and common direction. Yet, the new rural education should maintain independence and self-direction until it is mature and stands with self assurance and equality. At least for a few decades, while it is establishing its own tradition, spirit and methods, it should be free to create its own pattern and organization. The following is suggested as a general way of organization.

28. *Rural Education Councils* :- In each province, or in a group of small provinces, there should be a rural education council. This should be made up in the first place of leaders in rural education who should determine the basis of membership. Thereafter the council should have democratic government. At first this may be an undifferentiated organization. In the course of time, the membership probably would organize into a number of sections, one concerned, with pre-basic education, one with post basic education, one with the college and university level, and perhaps one concerned with research.

Also there should be an all-India Rural Education Council. The Hindustani Talimi Sangh now serves that purpose, and could be enlarged. This in time would have sections concerned with the different levels of

educations, and doubtless would develop other special sections, such as on general education, on vocational and professional education, on work programmes in education, and on student counselling. Quite probably basic education would be chiefly guided by provincial councils, college and university education by the national council, and post-basic (secondary) education by both. These councils, or their appropriate sections, would be the recognized appraising and accrediting agencies for rural education. They would carry on educational research and would strive to raise the quality of rural education.

29. *Autonomy* :- No matter how sound the underlying principles are, the development of techniques will take time. While the philosophy and methods are being developed, the rural university will be a place of pioneering experiment. Each institution should be autonomous, free to work out its own programme in its own way. Heads of departments, at least, should prepare their own syllabi with the approval of the academic council of that college or university, and should test the achievement of their students in their own way. Each institution should determine what credits or certificates or other evidence of completion of work its students should receive. There should be no external examinations.

To encourage high standards of education, it would be desirable for each level of the rural education programme, primary, secondary undergraduate college, and graduate university to have one or more appraisal committees, appointed by and reporting to the appropriate section of a rural education council, to make periodical examinations and appraisals of each institution in its class, and to issue a report through the rural education council describing the quality of work being done at each. Such a report should state with reference to each institution:—

1. Just what it claims to be doing.
2. How it is succeeding in doing it.
3. What the facilities are in plant, staff, finance etc.
4. What other quality or lack of quality is evident.
5. Whether or not it should be accredited

The report concerning each institution, before it is published should be submitted to that institution so that any errors of fact may be corrected. Only accredited institutions should be eligible for membership on the council. In the long run the periodical publishing of such appraisals would furnish strong incentive for improvement without killing creative initiative in the institution.

The councils or their appropriate sections would determine which schools at each level should be accredited, that is, recognized to be of such quality that their graduates, with the approval of the head of the institution should be accepted as qualified for entrance to schools of the next higher level. Each accredited school would determine the fitness of individual pupils or students for entrance to institutions of the next higher grade.

The Rural Education Council of some backward province might set relatively low standards for the post-basic (secondary) schools of that province. Such provincial standards might allow students to go from any accredited school to any college or university in that province. At the same time, the national council might have more rigorous standards, so that only a smaller part of the secondary schools in that province would be accredited to approve their graduates for entrance to any university in all India. Such dual accrediting operates successfully in America. Students from relatively common place schools in some states are admitted to colleges and universities in that state, but students from the smaller and more rigorously selected list of the national or regional council have national or regional acceptance. Schools with only state accrediting are looked upon as second class, and constantly strive to qualify for wider recognition. In some progressive states, standards within the state are more

rigorous than those for the region or the nation.

Each institution above the basic education school should be free to limit enrolment to the number it can reasonably accommodate, and to select the best of the applicants. The cure for inadequate educational facilities is more facilities, and not the overcrowding of those already existing. It is better to give good educational opportunity to one hundred students than to give a travesty of education to two hundred. So long as students are being accepted, the general public will assume that satisfactory education is being provided. Where a large number is refused entrance for lack of accommodation, the public will bestir itself and provide more facilities.

30 Rural University Administration :- The rural university might well have two governing bodies. First, a small *academic council*, consisting of perhaps a dozen members of the staff chosen by appropriate means, should formulate policies and programme for the academic and related affairs of the institution, sometimes acting through suitable committees. It would deal with educational policies, curricula, inter-relations of fields and departments, student counselling etc., but would not undertake the day-to-day business and administrative management of the institution. Meetings and action of the entire faculty might well be a

source of information and of advice for the academic council.

Student participation on the academic council and its committees has in some cases been found to be an enlivening, stabilizing and unifying influence. Progressive recognition and encouragement of student participation, as competence and responsibility are demonstrated, is a desirable aim.

The current administration of the university would be in the hands of the vice-chancellor with a few chief academic and business assistants, such as the academic dean, the dean or director of practical work, and the treasurer or bursar. They should meet periodically to clarify plans and programme. Such focusing of day-to-day administration is important. The academic council is poorly adapted to administrative duties.

The second governing body might be called the *executive council.* It would be the over-all authority to direct university policy and to pass on the major acts and proposals of the academic council and administrative staff. It would not handle details of educational or business administration, but would control general policy and programme. It should meet perhaps three to six times a year, a part of each meeting being solely for its own members, and a part in joint meeting with the academic council and the vice-chancellor

and his chief assistants. Such joint meeting help all parties to be well informed.

The choice of members of the rural university executive councils will largely determine the quality of the institution. Except perhaps for co opted members, most members should be persons who for, say five years have been directly concerned with rural life and in most cases with rural or basic education. Such a provision is necessary to prevent rural education from being dominated by existing tradition. However, as already stated, a minority might well consist of leaders in other fields who would have outside viewpoints.

The primary aim in selecting members of the executive council of a rural university should be to secure :

1. General competence, character, judgement and experience, free from and superior to political or academie cliques, or partisan inclination or influence.

2. Acquaintance with and active interest in rural India and rural education.

3. General, broad cultural and educational interest.

4. Good administrative judgment.

5. Simplicity of personal tastes, habits and expenditure.

6. A variety of types and interests, so that the council shall have universality of outlook.

As to the specific process of choosing members, and as to the specific make-up of the council, the rural university should not be bound by precedent.

Except for the vice-chanceller, none of the other usual elements of college governments, such as court or chancellor, will be needed. The entire content of medieval university ceremony, ritual and regalia, much of which emphasizes academic hierarchy, may be omitted in the new universities. They are in some degree incompatible with the new spirit of India. The new university should develop its own traditions which should be outgrowths of its own genius and spirit, and that of the new India. In the determination of grants by central and provincial governments and in other public relations the procedure recommended elsewhere in this Report may well be followed.

31. *The Relations Between Rural Secondary Schools, Colleges and Universities, and the Existing Universities:-* it is important that there be no unnecessary barriers between the existing and the new type of institutions. Students who are capable of doing so should be able to move from one type to the other. For this to be possible we will

require an attitude of tolerance and adjustment on the part of each, with liberalization of legislation dealing with higher education. Students from the older type of Indian secondary schools may find thmeselves at great disadvantage in a rural university where most of the students are from rural secondary schools. The rural university should be reasonably tolerant of such limitations where there is evidence of general character and ability, and desire to overcome such handicaps. Similarly the older universities should accept able and sincere students from rural secondary schools, even though their education has not followed the prescribed pattern of the older secondary schools. There should be no legislative barriers to such practice. The actual records in other countries of good students going from one type of institution to another justifies such mutual tolerance.

32. *How to Get the Rural Education Programme Under Way:-* The criticism will be made that while the programme here outlined would be a desirable one, India does not have the resources to put it into effect. Under the programme of free India, university facilities must be increased. The only question is where and how. Similarly facilities for secondary schooling must be very greatly enlarged and extended, with vastly increased opportunity for vocational education. The suggested programme for secondary schools

will be an economical and effective means to that end.

Most provinces are already committed to the principles of basic education. Each of them might well establish a number of resident secondary school villages, and they might cooperate in establishing one or more rural universities. Similarly, the central government might well establish several resident secondary school villages and a rural university. The growth of the new system will depend largely on the supply of suitable teachers. The Central government or the provinces might establish one or more training schools for teachers for this programme.

The Gandhi Memorial Trust might well establish several secondary school villages over India, and one rural university, staffing them with persons trained in existing training centres and with others who are sincerely committed to the principles of basic education. That might help to insure that the spirit of Gandhiji would find expression. Also it would be appropriate for persons of means to make possible the establishment of a number of such institutions.

It will be no disadvantage for the programme to have varied independent beginnings. Different men and agencies, working somewhat independently but in co-operation, will give a variety and fullness to the programme which no one of them could

provide alone. However, the next few years may largely set the type of Indian education for the next half century. The new type secondary schools and universities should be vigorously developed as an essential element of the educational expansion on which the future welfare of India depends.

33. *Co-operation with other Agencies of Government*:- The governments of free India and of the various states and provinces are showing interest in rural conditions, and are considering many plans for improving rural life. These plans include rural health service, agricultural extension work, boys and girls agricultural club work, rural library service, and the promotion of rural industries. If each of these develops independently of the others there will be much duplication of expense, a tendency to conflict and jealousy, and much loss of value.

There would be very great gain if all these agencies should work through the rural educational institutions. The secondary school village might well be the local centre for all these services. In that way suitable housing and living conditions would be provided, secretarial help, transportation etc. could be pooled, and local officials having business with some of the agencies would find them all at one place. More important than these economies would be the fact that secondary school students would be in

constant touch with these agencies. The nurses, librarians, agricultural agents and promoters of industry might share in the teaching and in the direction of practical work. Thus the resident secondary school village would be the educational and cultural centre of a group of villages.

Similarly, the rural university could be the regional centre for all such rural service agencies. Rural workers and directors would profit by rural university associations, faculty members of the universities would profit by constant contact with those directing the field work, and university students in their part time work could assist rural workers and could be in training for similar service. It would be a great loss to India for the varied rural services to develop without such co-ordination with rural education. The co-ordination suggested will call for some changes in the administrative machinery of the central and provincial governments. Also it would demand that those chosen fo rural services should be competent and interested in rural life, chosen on merit only, and not political appointees. It would be tragic to have secondary school and university students living under the influence of mediocre rural social workers chosen for political reasons or by favouritism.

VIII. *Conclusions*

34. Education in Hope and Courage:- Of all the barriers to a great development for rural life, almost none is as great as the prevailing vogue of pessimism and futility. The greatest and most pernicious myth in all India is this myth of futility and helplessness. Our country is throbbing with creative life and power, which is ready to burst into action if this myth is exploded.

One of the chief duties of all education from the earliest years to post-graduation is to dispel the prevailing attitude of futility and hopelessness, and to educate our young people in hope and courage. The chief limitation of india is what she expects of herself. Life in the present world and in India is so complex that no one can make an analysis and plan a sure course. The outcome will not depend on external circumstance, but upon the spirit of our people. Faith, hope, goodwill and courage are themselves among the most powerful causes of events. For education to arouse these qualities in the people will be a greater gift, and greater factor in national destiny, than would the discovery of vast oil fields or sources of atomic power.

35. A Feasible Programme:- It is appropriate that in the inevitable expansion of higher education in India, a fair proportion of the additional facilities be directed to

meeting the needs and developing the opportunities of rural areas. The conditions necessary for initiating the programme are present. There are among Indian educators and among educated constructive village workers today enough qualified men and women to staff one or two or three such universities with persons who have the necessary preparation, outlook and spirit. Boys and girls who have been through basic education schools are approaching the age when they will be ready to continue basic education methods at a higher level. By the time the new institutions are ready, a qualified, suitable student body will be pressing for entrance.

36. *Recommendation:*– We recommend that special attention be paid to the development of higher education in rural areas along the lines indicated.

CONCLUSION

1. The Primacy of Education in India. 2. Our Problems. 3. Expenditure and Investment. 4. Unanimity. 5. Statistical Data. 6. Our Hope.

1. *The Primacy of Education in India:*- Education is no exotic in India. "There is no country", says Professor F. W. Thomas "where the love of learning has so early an origin or has exercised so lasting and powerful an influence." Years ago, Sir Alexander

Johnston wrote a letter to Mr. Charles Grant, President of the Board of Control, in the following terms:- "Education has always, from the earliest period of their history, been an object of public care and of public interest to the Hindu Governments on the peninsula of India. Every well regulated village under those governments had a public school and a public school-master. The system of instruction in them was that which, in consequence of its efficiency, simplicity and cheapness, was a few years ago introduced from Madras into England and from England into the rest of Europe. Every Hindu parent looked upon the educat on of his child as a solemn duty which he owed to his God and to his country, and placed him under the school-master of his village as soon as he had attained his fifth year. The ceremony of introducing him for the first time to the school-master and his schoolars was publicly recorded and was attended with all the solemnity of a religious observance; a prayer being publicly offered upon the occasion to the figure of Ganesa, the Hindu god of wisdom, which was at the head of every Hindu school, imploring him to aid the children in their endeavours to learn and become wise."[1]. The country has had an uninterrupted succession of teachers and scholars from the early Vedic age.

2. *Our Problems:-* We are to-day faced with great problems, national and social, the

1. Oriental Annual (1836) P. P. 31-32.

acquisition of economic independence, the increase of general prosperity, the attainment of an effective democracy over-riding the distinctions of caste and creed, rich and poor, and a rise in the level of culture. For the quick and effective realisation of these aims, education is a powerful weapon if it is organised efficiently and in the public interest. As we claim to be a civilised people, we must regard the higher education of the rising generation as one of our principal concerns.

3. *Expenditure and Investment:*- We have set forth the objectives of university education; we have stressed the need to broaden and equalise opportunity for higher education, to assist able but financially handicapped students. We have suggested the essential organisational changes. We have made proposals for the improvement of the quality and status of teachers. Many of these proposals will mean increased expenditure but this increase, we are convinced, is an investment for the democratic future of a free people. There is no freedom without knowledge. "We shall know the truth and the truth will make you free." With all the earnestness at our command we solicit the Government of India which charged us with this important task, the Provincial Governments, who have the responsibility for maintaining most of our universities, and the people of India to give their very earnest and sympathetic consideration to the financial needs of the universities'

and assure them the funds without which no improvement is possible.

4. *Unanimity:-* In a report covering the wide field of higher education, made by any ten men of widely varied background and experience, it is inevitable that variations of opinion, outlook and emphasis should exist. Our report expresses a sincere effort to get at the essence of the issues in a spirit of mutual respect and tolerance, and not an attitude of indifference on the part of individual members to their own personal views and convictions. The report is not a compromise between various opinions. We jointly and unanimously adopted the conclusions reached.

We must apologise for the fact that certain ideas which seemed to us to be of special importance are dealt with repeatedly in this report

5. *Statistical Data :-* When drafting a report of this kind, certain statistical data must necessarily be taken into account. The figures which we give are based on official data, the accuracy of which we were not in a position to verify. We did not consider it part of our task to undertake the numerous investigations required for the compilation of new statistics.

6. *Our Hope*:- The shortness of the time at our disposal prevented us from extending our investigations as widely as we should have desired. We recognise that the abservations made by us in person are an insufficient basis for large generalisations. We thought it wiser to concentrate our attention on the major defects of our university system as revealed by our witnesses and on measures which would tend to remove them.

We have been deeply impressed by the remarkable degree of agreement among our educationists and public men both as to the urgency of educational reform and as to the general lines upon which such reform should proceed. There are some who, often amid difficulties and discouragements, are labouring to promote reform. They need not feel that they are isolated individuals. They represent a large and growing body of opinion, which needs only to act together in order to be irresistible. Seldom have the authors of a report owed so much to so many. It is with a sense of sincere gratitude for the help that has been so readily given to us and of earnest hope that the consideration of this report to which we now respectfully invite the attention of the Governments of India and the Provinces

as well as the authorities of the universities, may lead to good and lasting results, that we conclude this report.

(Sd) S. RADHAKRISHNAN
(Chairman)

,, A. L. MUDALIAR.

,, ARTHUR E. MORGAN.

,, J. F. DUFF.

,, J. J. TIGERT.

,, K. N. BAHL.

,, M. N. SAHA

,, TARA CHAND.

,, ZAKIR HUSSAIN.

,, N. K. SIDHANTA.
(Member Secretary)

EXTENSION TRAINING CENTRE
BHAVANISAGAR.

APPENDIX O.

Table Showing Total Yearly Expenditure of Government and amount spent on Education (Total) and on University Education.

Government, Central, Provincial or State.	Year.	Total Expenditure of Government.	Total expenditure on education	Expenditure on University Education.	Remarks.
		Rs.	Rs.	Rs.	
Central Goverment.*	1946-47	4,01,35,61,000	2,60,85,990	13,08,421	
	1947-48†	2,04,83,56,000	3,81,84,608	46,70,252	
	1948-49†	3,82,19,04,000	4,47,88,645	46,01,572	
Assam	1946-47.A	5,69,57,000	73,95,439	7,91,702	
	1947-48.A	6,84,79,000	77,67,925	12,32,622	
	1948-49. B	8,21,67,000	86,69,600	12,90,022	
Bihar	1946-47	14,41,52,000	1,06,48,873	13,60,143	
	1947-48.A	16,79,98,000	1,24,09,279	14,16,832	
	1948-49. R	22,79,53,000	1,20,11,577	14,59,294	

Government. Central, Provincial or State.	Year.	Total Expenditure of Government.	Total expenditure on education	Expenditure on University Education.	Remarks.
Bombay	1946-47	36,41,55,193	4,52,03,488	27,67.580	
	1947-48	41,32,69,911	6,19,06,994	36,36.775	
	1948-49R‡	51,91,44,000	8,37,43,000	69,04,615	
C. P. & Berar	1946-47.	11,54.77,000	1,21,87,000	25,96,000	
	1947-48.A	11,35,90,000	1,83,92,000	31,80,000	
	1948-49.R	17,27,22,000	2,38,06,000	39,84,000	
East Punjab	1947-48.A	7,58,46,000	86,55,000	8,72,229	
	1948-49.R	17,82,25,000	1,35,92,000	14,79,268	
Madras	1946-47.A	56,98,89,000	5,89,69,565	55,95,967	
	1947-48.A	50,68,56,000	7,03,36,214	67,03,185	
	1948-49.R	57,04,60,700	8,86,62,600	96,50,100	
	1949-50. B	55,66,08,400	9,38,93,200	...	...
Orissa.	1946-47.A	4,48,93,317	63,14,885	9,75,042	
	1947-48.A	5,84,44,820	78,23,117	13,70,474	
	1948-49.R	7,90,35,000	96,53,000	16,12,563	

Government Central, Provincial or State.	Year.	Total Expenditure of Government.	Total expenditure on education	Expenditure on University Education.	Remarks.
United Provinces ‡	1946-47.A	... ...	... ...	... ...	
	1947-48.A	38,72,96,107	4,09,67,258	35,02,020	
	1948-49.R	48,47,41,700	5,41,63,700	46,30 400	
West Bengal	1946-47	52,01,49,000	3 30,30,000	52,01,490	Pre-partition
	1947-48	14,80,21,000	1,30,91,000	19.24.270	7½ months
	1948-49	30,82,00,000	2,52,94,000	30,82,000	
Tripura, Manipur & Cooch-Bihar	1946—47	1,55,73,643	9 08 108	... ...	
	1947—48	1,86 56,665	12,23,150	... ...	
	1948—49	1,92 99,325	18 03,451	... ...	
Baroda	1946—47	4 54 46 038	50 48,296	5 45,353	
	1947—48	8,78 61 944	69 34,864	7,02,896	
	1948—49	6,32,10,000	88,48,624	6,95,310	

Government Central, Provincial or State.	Year.	Total Expenditure of Government.	Total expenditure on education	Expenditure on University Education	Remarks.
Bhopal	1946—47	1,34 96 174	6 08 843	2,06 491	
	1947—48	1,29 92 836	6 62 474	2,27 375	
	1948—49	1,40,14,492	6,73,730	2,24,232	
Bikaner	1946—47	3 53 73 422	13,06 218	4 95 228	
	1947—48	4 03,21,736	19,07,472	6 04 826	
	1948—49	4,00 46,207	23,58,654	8 81,017	
Cochin and Travancore	1946—47	12 64 01,218	1 66,29 539	31,22 785	
	1947—48	14 73 13,266	2,08 58 023	41,20,795	
	1948—49	13,21,44,221	2,42 61 515	47,46 617	
Himachal Pradesh	1946—47	1,20 96,800	4 92 500	... ...	
	1947—48	1,30,40,300	6 79 300	... ...	
	1948—49	1,19,04,400	8 69 100	33 332	
Hyderabad$	1946—47	16,96,38,557	2 58 64,901	47,89 872	
	1947—48	22,91,17,714	2,98,70,828	59,93 905	
	1948—49	22,30,24,286	2,93,40,601	38,02,286	

Government Central, Provincial or State.	Year.	Total Expenditure of Government.	Total expenditure on education	Expenditure on University Education	Remarks.
Jaipur	1946—47	3,22,03,000	23 87,000	3,74,000	
	1947—48	3,03,00,000	30,41 000	6,39,000	
	1948—49	4,00,56,000	32 93,000	5,95,000	
Jammu and Kashmir $	1946—47	5,37,81,000	37,51,000	3,67,444	
	1947—48	5,92,88,000	33,49,000	3,77,300	
	1948—49	4,99,60,000	43,11,000	4,43,100	
Kolhapur	1946—47	1,38 42 581	19,02,494	3 32 222	
	1947—48	1,78,67,800	19 84,000	3,57,356	
	1948—49	1,41,68,600	19 91,900	3,68,384	
Kutch	1946—47	76,46,160	3,02,134	7,646	
	1947—48	77,47,897	3,05,800	7,748	
	1948—49	89,58,880	4,11,670	8 959	
Mysore	1946—47	11,74,88,551	1,30,84,492	17,03,584	
	1947—48	10,13,18,999	1,64,37,380	19 95,984	
	1948—49	11,37,59,000	2,75,12,000	34,46,989	

Government Central, Provincial or State.	Year.	Total Expenditure of Government.	Total expenditure on education	Expenditure on University Education.	Remarks.
Patiala & East Punjab States Union	1946—47	5,27,47,243	23,40,447	5,51,839	
	1947—48	5,69 30,054	23,98,933	6 07,079	
	1948—49	5,96,07,627	27,78,628	6,94,982	
Rampur	1946—47	89,88,678	8 31,267	... ...	
	1947—48	1,09,16,772	10,89,104	... ...	
	1948—49	1,05,71,894	10,36,775	... ...	
Tehri Garhwal.	1946—47	31,11 955	91.357	30 808	
	1947—48	38 88,737	1,76,168	55 609	
	1948—49	53,64,116	5 45,487	29 985	

* *Supplied by the Statistical Section of the Ministry of Education.*

† *Figures of expenditure incurred by the Ministry of Relief and Rehabilitation are not available.*

‡ *Supplied by "Eastern Economtst".*

$ *Budget figures.*

APPENDIX P.

*The Danish People's College and Danish Agricultural Education.

Origin of the Danish People's College Movement:- A Description of the Danish People's College is appropriate to a study of Indian Universities. The conditions under which it came into being are strikingly similar to those in India in the recent past. The manner in which the originator of the People's College programme promoted his ideas, and the ideas themselves, are strikingly similar to those ofGandhiji and his Basic Edudation.

The People's College movement has been a major influence in raising Denmark from a very low condition to become the second state in Europe in per capita wealth, though there is scarcely a nation in Europe with less natural resources. The "peasant" rural class has become the leading social force in the country. The social legislation it has brought about is cautiously, though strongly, progressive.

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* This description is largely paraphrased from "The people's College" by Holm-Jensen, "The Danish people's Hich School" by Hegland and the "Folk High School" by A. H. Hollman.

The term "Folkehojskole" is more accurately translated "people's College" than "Folk High School."

Nicolai F. S. Crundtvig, father of the people's College idea, was born in 1783, and died in 1872. He began promotiug his ideas of the People's College in 1838, in much the same way as Gandhiji presented the Basic Education idea just a century later. While neighbouring European countries were gaining strength and prestige, Denmark had been falling back. The country was sunk in illiteracy and poverty, and there was general disillusionment, pessimism and frustration.

Culturally the Danes had lost their bearing. Everything foreign was in high favour. The native language was being displaced by that of the nation which had recently defeated Denmark. Defeated in war, in 1813 the nation was officially declared bankrupt. Norway seceded, after 400 years of union. Educated Danes were completely under the influence of foreign scholarship. Instead of being aroused by these conditions, the Danish people sank into hopeless apathy, expecting national extinction.

It was in such an atmosphere that Grundtvig, at the age of 47, began to travel over rural Denmark, somewhat as Gandhiji did later over India, arousing men and women to the importance of education for the common people, and to love of the fatherland and loyalty to it.

Within a few years there was a strong movement in favour of his ideas. However, thirteen years passed before the first People's College was established.

2. *People's College Principles*:- Grundtvig held that the prevailing higher education had given young people undefined impressions of a culture foreign to them, and had taught them to neglect their own. He observed that the prevailing higher education rested on a system of examinations which students were glad to take in the hope of "an assured livelihood" in government service. He saw little love of culture for its own sake. "There had resulted a caste of the educated, and the masses of the country were left in ignorance to slave for them". This type of education, he thought, was not valuable to society, or even to the few who had attained it. He said that constantly poring over books developed an unlovely book worm type. They were mentally sterile. The students learned to look with disgust upon entering ordinary occupations.

He wrote, "The only good school to train a boy for life is the home of an able, industrious man where a boy can learn to know and also to enjoy the work to which he will afterward devote himself. To lock him up in what amounts to a scholastic reformatory spoils him for a simple life of industry". "It will not do", he wrote "to have the whole population

become professors, state officials or paupers, unless it be that they can literally live on air". At that time a University degree was required for most government appointments. It was largely that requirement which kept the Universities alive.

Grundtvig came to bellieve that a national awakening must begin with a spiritual enlightenment of the common people. The mother tongue, he believed, should be a ruling factor, and the fatherland the living centre to which all hearts must be drawn.

He began with great faith in books. But he found that the books he wrote did not change the people's lives. His years spent in writing books seemed to him wasted. So he turned to what he called "the living word". He would have his teachers live with the students, talking with them and being examples to them. He sought a relation similar to that of the old Indian GURU with his pupils. He himself went about rural Denmark, meeting and talking with people face to face. He said, "Great teaching must be the fruit of actual experience on the part of the teacher, not the expression of mere theory".

The aim of his People's College, he held, "should not be examinations and an assured livelihood, but for each individual the development and enlightenment which bring their own reward. The aim of the school should

be to find 'the common universal subjects' to which the students would want to devote their time because of their usefulness, or because of the pleasure they give."

Grundtvig insisted that there should be no examinations of any kind in the people's College. They were to teach only things which are of common interest to the whole people.

The study of the mother tongue and all that pertains to it he deemed of prime importance. This emphasis did not result in insularity. An observer wrote, "Foreigners are surprised when they learn that simple peasants are leaders in Parliament, and in important government departments".

Grundtvig held that the difference between the cultured and the uncultured person is that the former feels a sense of kinship with the intellectual life of the past which the latter is without.

The first People's College was established by Kristen Kolb, son of a shoemaker and a follower of Grundtvig, in 1851. It was started with a capital of less than Rs. 2,000 and with 15 students. He built a building for the school, mostly with his own hands. His little peasant school seemed insignificant, but "history makes no mistake when it attributes to it a decisive influence on the people's College",

and a powerful influence in regeneration of Denmark. By his strong personality the People's College was given a solid footing in Denmark. Grundtvig said Kolb had transformed his ideas into reality in the best manner.

Kolb said, "I do not know so much about enlightenment as about enlivenment. I enliven first and enlighten afterward, or at least enliven and enlighten at the same time". Following his example, all the people's Colleges came to put their chief emphasis on the awakening and development of personality; imparting knowledge was treated as of secondary importance. He said, "I found that not until the enthusiasm of my students was aroused were they ready for any instruction."

3. *Description of the Peaple's College* :- The people's Colleges of Denmark are residence institutions for adult young people, chiefly from rural life. They are not vocational, but cultural in their purpose. All of them, and of the agricultural schools are private institutions, usually owned by the principals, but sometimes by an association. None but principals who combine such qualities as intelligence, forceful speech, business ability and good personality can succeed. Though the government give financial aid it does not interefere in management. Many schools would surrender government aid rather than submit to formal examinations by government.

A People's College which applies for public funds must first be recognized by government. In order to get recognition the school must have been in existence for at least two years and in both years must have had at least ten students for a year. No student may be under sixteen, and not more than one fourth may be under eighteen. The government makes grants according to the number of students. The poorer schools lose students and finally closs. Thus the students and not the government rate the schools. Since there are no examinations and no degrees, the problem of uniform tests does not arise.

While the government allows a certain proportion of students under eighteen, the people's Colleges are conducted on the assumption that it is well to have a break in schooling between the forteenth and the eighteenth year, or even longer. Many Danes hold that in this period of adolescence and maturing, young people want to grapple with practical affairs, to become self-sufficient and self-reliant. [1.]

While this programme of interrupted schooling has been highly successful for rural boys and girls it is less so in the cities. For city youth the interruption of schooling often means that the time is spent in earning money and spending it freely on city distractions, so that when the years for people's college arrive, earning and spending and urban recreation habits have spoiled the natural interest. In sweden urban people's colleges have succeeded better, but they are more directly vocational in nature.

Parents generally agree that only students over eighteen should attend People's Colleges. They feel that students should first learn the manual labour of their future occupations, and should not attend Peoplc's Colleges unless and until they have strong desire for education. The experience of the colleges proves that this desire to learn asserts itself without any urging.

A typical school has about 125 students during the year, though some of the more popular ones have two or three times as many. Most People's Colleges are for both young men and young women. Generally the men attend from November to March, while the women, and sometimes men as well, attend from May to July. Some Danish People's Colleges are co-educational, as are most of those in Sweden.

The schools are nearly all located in the open country, a mile or two from a village or city. The students live in close association with teachers, often in one large building. The furnishings are simple, sometimes meagre, and so the students are not educated away from simple living. The principal and family have at least one meal a day with the students. Students and teachers eat at a common table, spend part of their evenings together, and there is the same familiar intercourse between students and teachers as among the students themselves.

Problems of discipline are practically unknown. Some schools have formal student government, but the shortness of the term prevents its full development.

About five per cent of the students come from cities and towns, and the rest from the farms and villages. About a third of the students go to schools in some part of the country distant from their homes, thus promoting national unity.

The curriculam of the people's College covers ground somewhat similar to that suggested by the University Commision's report concening GENERAL EDUCATION in the chapter on COURSES OF STUDY. The curriculum of the existing People's Colleges includes all major fields of general education, with literature, history, the art of government, the physical and biological sciences, and also ordinary practical school subjects to a greater or lesser degree.

Lectures are very much used. The secret of success with lectures seems to be the thorough mastery of the subject by the lecturer, his all round education, and his great interest in his work. Text-books are not generally followed, though the library is much used.

The schools have a deeply religious spirit, but there is no formal instruction in religion. With a few church supported institutions this is not the case.

The people's College is attractive to young people. Many look forward to it for years, and save money for it.

Opponents of the People's Colleges held that the best preparation for a farmer is to learn agriculture, and that the people's Colleges were a waste of time. Others held that the peasants were incapable of culture. Agricultural schools were set up in opposition to the People's Colleges. They mostly failed except as they were taken over by men who had been trained in People's Colleges. The view has come to prevail that a young man should first attend a People's College and get a broad outlook on life, and then take courses in an agricultural school. There are as many agricultural colleges in Denmark with 40,00,000 of population as in India with 32,00,00,000. Since the boy or girl was out of school and at practical work from age 14 to 18 or 20, he has practical experience. The development of Danish rural life in agriculture, co-operatives, social legislation and decentralized industry is pointed to as evidence of the *soundness* of this position.

4. *Some Results of the People's College Programme:-* One over-all result is claimed for the People's College programme; that it has created an intellectual and spiritual climate in which progress seems to be the natural course. The People's Colleges do not have special courses on co-operatives, yet Denmark

has a large and succesful co-operative development, and most heads of co-operatives are men or women from People's Colleges. The People's colleges are not political yet it is claimed to be largely through their influence that Denmark is very advanced in social legislation. The Danes have a good government, yet they prefer to handle their own affairs in private co-operative groups, rather than to have an army of public officials and employees controlling their affairs. A list of some of the achievements of rural Denmark since the birth of the People's Colleges is instructive.

Cultural Achievements.

As a direct result of the People's College movement nearly every village and town has its lecture society. These have meetings once a month which combine literary and social interests. The meetings are eagerly attended. There is one such society for every 1,500 people in Denmark. The average attendance is about 100, so about 6 per cent. of the rural people of Denmark have such an experience each month.

A widespread habit of reading also has developed. Denmark publishes one magazine for each 2,200 people, and one daily paper for each 20,000 people. Nearly every home has its own library, and every small town its book store. The village public libra-

ries of Denmark contain two and a half times as many books as do the city libraries, and the village circulation of books is larger. A new book is published each year for each 1,000 of the population, so each Dane must buy several books a year.

The speech of the common people, which Grundtvig nutured as a literary form, has become the language of literature. The academic language of a century ago has entirely disappeared. With this simple speech of the people, Grundtvig held, "people can express the loftiest thought in plain words". Of course scientific nomenclature must recognize international usage.

The "old school ties" of the People's College help to keep alive fellowship and mutual understanding. There are alumni meetings each year, and also usually each fall several days are spent in a reunion where old students can refresh their outlooks and spirits. The attendance is large. Also extension lectures take the People's College to the villages.

Social Legislation.

Child labour is prohibited under fourteen years, and night work for children under eighteen. The old-age pension system of Denmark has been largely copied by England, the United States and Newzeland.

Insurance against accidents while at work is paid for by industry as a part of the cost of production. There is unemployment insurance, so that a person may continue to have an income if his job fails. This is managed, not by the government, but by the workers. Similarly "sick clubs", to care for the members during illness are privately organized and managed by the members, but with government-financial help. There are also excellent old people's homes and provision for relief of invalids. Provisions for arbitration and consciliation between employees and employers, have largely eliminated industrial strife.

Economic Development.

Of young men and women who attend People's Colleges, about 90 percent return to their home communities, while many others become rural teachers, managers of co-operatives etc. Thus the People's College is strengthening and refining, rather than impoverishing, the rural life. The Danish farmer has become a scientist at his work, and Denmark has become like a big experiment station in agriculture. Whereas their grandfathers where mostly tenants, more than nine-tenths of the farmers now own the land they cultivate.

A century ago a considerable part of Denmark was waste heath land. Nearly all this has been reclaimed, though some times thirty years of continous scientific treatment is necessary to turn a barren waste into productive farm land.

The country has a large number of co-operative organizations through which the people serve themselves in many ways. The following list, published in 1939, indicates how the education provided by the People's Colleges finds expression in economic affairs.

Kind of Co-opperative		Number of organizations (approximately)	Year the First was Organized.
Food-Stuff Societies	...	1,387	1851
Dairies	...	1,400	1882
Dairy Societies	...	800	1887
Milk Testing Associations		400	1902
Danish Dairy Butter-Seal-Societies	...	1,400	1900
Bacon Factories	...	62	1887
The United Bacon Factories		60	1890
Danish Egg Export	...	700	1895
Potato Export	...	15	1913
Butter Export	...	10	1888
Cattle Export	...	15	1898
Danish Bacon Company	...	1	1912
CattleBreeding Associations		700	1881
HorseBreeding Associations		400	1879
SwineBreedingAssociations		200	1882
SheepBreeding Associations		150	1899
Goat Breeding Associations		60	1909
Cow-testing Associations	...	1,750	1892
Consumers' Societies	...	1,824	1872
Credit Associations	...	14	(1775)1850

Banking Associations ...	160	1897
The Co-operative Bank Copenhagen ...	1	1913
Savings Associations ...	500	1884
Cattle Insurance Associations ...	2,500	(?)1810.
Bull Associations ...	1,400	1884
Hail Insurance Associations ...	20	1864
Storm Insurance Associations ...	10	1896
Fire Insurance Associations	10	1856
Accident Insurance Associations ...	2,00,000 (members.)	1898
Life Insurance Associations	10	1904
Use of machinery ...	2,000	1914
Electrical Plants ...	400	1895
Coal Supply Associations	600	1913
Fertilizer Associations ...	1,450	1866
Bakeries ...	40	1888
Fruit Societies ...	20	1903
Sanatorium Associations ...	1,200	1904
Cement Associations ...	850	1911
Renting Associations ...	1	1912
Total.	23,520	... ...

There is a policy of "building from the ground up" and vesting the power in the local unit rather than in a central organization. The mortality of Danish co-operatives has been very low.

The co-operatives are open to all responsible persons, have democratic management, operate on a cash economy, and keep open accounts, with no secrets. The membership is voluntary and withdrawal without financial loss is made easy for a person who wishes it.

Throughout Denmark there are many agricultural study circles. Nearly every cottage has a radio, and broadcasts on agricultural and other subjects are frequent. There is an organization for national economic work for young people, for co-operative work undertakings, the aim of which is to increase the interest of young people in farming. There are gymnastic clubs in many villages.

Though Danish agriculture is very efficient, less than 10 per cent of the rural people have attended even a six months' agricultural course. The agricultural quality is held to depend largely on a state of mind engendered by the People's College. The students develop a habit of study, the open mind, and appreciation of expert knowledge and of co-operation.

All over Denmark there are "societies of control". These are co-operative societies which employ agricultural experts. The expert advises on soil, crops and live herds, and prescribes feed and care. When market conditions change, the farmer is advised by his expert

what to do, and he can at once change crops to meet new conditions. Thus the whole agriculture of Denmark has made quick shifts to meet new international conditions, and this without any government dictation.

The People's College has not been the only progressive element. The democratic constitution of Denmark, like that of India, was the result of a somewhat romantic middle class movement, following the trend of the times. Grundtvig believed that for actual democracy to appear there must be general education for the common people. When the new peasant party sought through-going reforms, the same liberals who put through the new constitution united with conservatives to prevent democratic policies from emerging. Two great political figures, Georg Brandes and Viggo Horup, fought for democracy, and were largely instrumental in bringing it about. A vigorous contest raged from 1870 to 1901, when a new and very democratic constitution was adopted.

5. *Limitation of the People's College Movement*:- The Danish People's College is no self-perpetuating system for achieving high citizenship. When Grundtvig oultined its principles more than a century ago he was far in advance of his day, and the effort to achieve his ideals brought a great upsurge in the national life. Were he living today he doubtless would have accepted the scientific

attitude and its social implications. His followers until recently tended to retain the position he held in his day, rather than to progress as he progressed during his life. Some people feel that some of the Danish People's Colleges through this kind of orthodoxy are tending to become static, and are losing their position of vital leadership.

6. *Lessons for India:*– There are two dangers in the Indian basic education movement. One is that it shall become conventional wordly and self-seeking, losing its strong, consecration to fundamental human needs and values. The other danger is that it shall fix as a rigid orthodoxy the position Gandhiji took under the particular circumstances of his time, and shall not grow and progress in his spirit of "experimenting with truth". There is danger of yielding to both these tendencies at the same time. A People's College movement would need to guard against both dangers.

For an institution similar to that of the Danish People's College to develop in India will require a supply of suitable teachers. This may well be one of the activities of the rural universities. The rural university in this way would help to build a bridge between the world of scholarship and the life of the common people. Fortunately there exists in India a body of men and women committed to rural education and experienced in it who could make a substantial beginning to that end.

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Numbers 2 and 4 are out of print.

Numbers 1,3,5,6 and 7 and occasionally copies of the others, can be supplied by Community Service Inc. Yellow Springs, Ohio. U. S. A.

APPENDIX Q.

II. New Rural Professions:-

The following descriptions are of new or partly developed professions mentioned in the chapter on Rural Universities. Some of these are rural in their nature, while others, though concerned with the whole of Indian life, are definitely appropriate for rural university study.

Water Control Engineering:- Because of the seasonal distribution of rainfall over most of India, and of the semi-arid condition of much of the country, and also because the principal crop, rice, requires irrigation, the very life of India depends on the control of the water supply. If the use of the river flow in India should be increased from five

or six per cent to twenty five or thirty per cent, and if other good agricultural practices should be followed the crop yield of India might be more than doubled, floods could be reduced, and health conditions in some areas could be greatly improved. In this development water control engineering must play an important part. Large scale river control for irrigation, flood control, power development and navigation will go far in increasing the total water supply for irrigation.

Where electric power is generated, there need be no conflict between basic industries, such as aluminium and chemicals which use large amounts of electric power, and vigorous development of rural life and industry. The use of large amounts of power in basic industries may actually make more feasible the electrification of rural areas. Moreover, there is no reason why the basic industries should be located in cities. They can be located in the midst of a group of villages, getting their labour from such villages. The Alcoa, Tennessee plant of the Aluminium Company of America, the largest aluminium plant of the world, is so located.

The control of great river systems is only the beginning of the work of the water control engineer. After such great projects are carried to the utmost, a large part of India must depend on more limited sources of water supply. The construction of tanks by modern methods can be greatly extended.

As Indian farming is improved and mechanized, even though still conducted on a relatively small scale, perhaps twice as much total crop will be raised by a quarter as many farmers. Probably a hundred million Indians will be released from agriculture. One of the ways in which very large numbers of men can be used for long periods is in providing storage for surplus water, even by the excavation of great cisterns where that is the only possible method. In the need to find employment for the large numbers so released there will be justification for water storage projects which in other conditions would not be economically sound.

A great deal of Indian agriculture is carried on by pumping water from wells. So long as such pumping is by human muscle power or by bullock power there may be little danger of exhausting the ground water. With electric power a hundred times as much water might be pumped from a single well, and the ground water might be exhausted. Water control engineers should make careful ground water surveys where irrigation is by pumping. In some cases it will be necessary to rigidly limit the amount of pumping to prevent the failure of agriculture in large areas. Legislation similar to that previously suggested for relocating villages could be used for administering the ground water supply.

Over a considerable part of the peninsula, ground water is found only in fissures in the underlying rock. If a well intercepts one of these joints or fissures an abundant supply may be had. If it misses a fissure by five or ten feet the well may yield almost no water. Much hard work is wasted in digging dry wells. The water control engineer should become skilled in geophysical exploration, so that by the use of electrical and electronic devices water veins can be located and the waste of digging dry wells can be avoided.

In some areas it is possible to spread the flood flow of rivers so that it will sink into the ground and renew the ground water. This process has been developed in California.

Irrigation often results in the accumulation of salts at the surface and in the ruin of fine irrigated lands. The water control engineer can prevent this, and can even reclaim land that is naturally too heavily impregnated with salts to raise crops.

We have outlined some of the work of the water control engineer to show how an only partially developed profession can grow and can contribute greatly to the wealth and economic security of rural India.

Soil Improvement Engineering:- The earth was not made for man's special benefit. He takes it as he finds it and improves it to suit his purposes. Civilization is largely made

up of the efforts of men to master nature and to make it serve their needs. In very little of India is the rainfall ideally distributed for agriculture. So men correct the unbalance by irrigation. The soils of India are the results of geological forces having no purposeful relation to maximum productiveness. They must be studied, understood, and completed by human effort. There are some who dissapprove of the use of mineral fertilizers to correct natural or man-made soil deficiencies. Natural soils vary greatly in the presence or absence of the mineral elements which are essential to the best growth of plants, and therefore in their fertility. It should be the aim of soil improvement engineering to secure the optimum mineral balance so that a soil being treated shall approximate to the best balanced and most productive soils found in nature. Just as land may be ruined by excessive or unskilled irrigation, so can it be injured by unskilful use of fertilizer. The cure in each case is not to "go back to nature", but to master the subject by scientific inquiry.

Much exploration is yet needed before the treatment of soil can be made to reach its full possibilities. This is true not only as to mineral contents, including such necessary "trace elements" as manganese, boron, cobalt, zinc and copper which have been overlooked until recently, but also with reference to soil organisms which help or hinder the growth of crops.

Much of the soil of India is seriously eroded, part of it so seriously that it is entirely out of use, except for poor pasture. By the use of good engineering and modern equipment such as bulldozers, millions of acres of this abandoned land can be brought back to full production.

Ancient Peru, which before its conquest had perhaps a higher degree of economic security than any country in the world, developed most of its agriculture on steep rocky mountain sides, by means of stone terraces so well built that after four centuries of neglect by the conquerors, they are still largely intact. A Peruvian, working for his government might spend his entire life in building terraces and filling them with rock and soil so as to create a few acres of land. The process was time-consuming, but once completed and supplied with water through irrigation canals built along the mountain sides, the terraces formed new land which would support a family for generations to come. The Irrogotes of the Phillipines similarly practice successful hillside terracing, as do farmers in the Himalayas. As a means for using very large numbers of men displaced from agriculture in ways which will add to the permanent national resources, land terracing has vast possibilities for India.

At the mouths of India's great rivers are vast expanses of land a little below sea

level, or so little above that they are too wet for cultivation. Holland has reclaimed large areas of such land, not nearly as fertile, and thereby has added to her population resources and to her wealth. With proper soil improvement engineering India can in the same way add fertile lands and good homes for millions of people. The Sunderban area in Bengal is evidence of such possibilities in India.

These suggestions by no means exhaust the possible fields for the soil improvement engineer, but they indicate what a variety of work is open to this new rural profession.

Temperature Control Engineering:- The tropical sun's heat, which now in many ways is a handicap to Indian life, can become one of our great resources through the new profession of temperature control engineering. Much of India needs hot water, especially during the winter months. It is entirely feasible, by means of simple engineering and construction, to use the sun's energy to heat water which then can be stored in insulated tanks. In this way a year round supply of hot water can be provided without the use of fuel, as is done in America under far less favourable circumstances.

With some what greater expenditure the heating of entire houses during winter months can be done by using solar energy for heating and storing water, using circulating hot water

for warming a house. In that way nearly all fuel for house heating may be saved. Homes, schools and factories of the future will have temperature control to make them pleasant places for working during hot weather.

Every good village should have a cold storage and "deep freeze" centre for the preservation of food, as well as refrigeration for each family. Every important fishing village and every large fishing vessel should have provisions for cleaning, packing and freezing fresh fish, and there should be provisions for shipping frozen foods. For these and other uses, temperature control engineering can have great extension in rural India. Food preservation by freezing will come to be one of the common necessities which a village cannot afford to be without, just as many villages cannot afford to be without irrigation water.

Food Processing Technology:-Many kinds of food are overproduced at some seasons and almost wholly lacking at others. Food processing and preservation can greatly increase and stabilize the food supply. Much grain is lost because it is stored with too much moisture. Control of the moisture content of grain for storage is becoming well developed. All these processes require a high degree of training and skill, and constitute a new profession or technology.

"*Chemurgic Engineering*" :- This is a term given recently in America to the process of turning farm crops, especially waste, into industrial products. The half million tons per year of waste molasses in the sugar industry should be used for production of industrial alchohol, stock feed, fertilizer or other useful products. Sugarcane bagasse and jute waste should become an important source of highly desirable building materials for interior work. Costor oil may become an important source of nylon fibre. The vegetable oils of south India may be processed for many industrial purposes. The possibilities of sisal have not been fully explored. Many of the forest trees and wild plants of India are unexplored as to their chemical industrial possibilities. "Chemurgic Engineering" opens new world for rural industry.

Ocean Products Technology :- India is bordered by fishing villages, but the processes are almost as primitive as a thousand years ago. The head of the Oceanographic Institute at Woods Hole in the U. S. A. recently expressed the opinion that in large areas of ocean south of India an acre of ocean would produce twice as much food as an acre of good Indian land. Ocean products technology can begin with improvements in packing, cooling or freezing, transporting and marketing fish products, and in processing and selling fish wastes for industrial products, poultry food and fertilizers.

But that need be only the beginning of a great new field of industry. As the profession of ocean products technology develops we may look forward, not only to a great direct increase of food supply, but to a very large increase of fertilizer, made of all living things in the ocean, plant or animal, not otherwise useful. The ocean, especially those parts where "plankton" and other life is most abundant, can be a vast source of vitamins, drugs, oils, glue, chemicals, leather, poultry food and fertilizer. The fishing villages and towns around the coast of India may become places of varied industrial life. Ocean resources may go far towards balancing India's food budget.

Mineral Processing :- India has a great variety of mineral products. There is no reason why these should be sent to large cities or to foreign lands for processing. Much of that work can be done by village or small town industries at or near where the minerals are found. Mica can be prepared ready for final use, including ground mica for paints and lubricants. Kyanite can be made into furnace linings, asbestos into roofing and other products. The field of mineral processing is so large and so varied that any detailed discussion is out of place.

Rural Industrial Counselling :- By and large, the chief disadvantage of much small industry is less in small scale production than

in the limitations of small scale management. Big industries can afford specialists in administration, in buying, selling, finance, accounting, labour management, and in the development of manufacturing processes, and research. For small scale industry to realize its full possibilities it is necessary that such special services shall be available to small industries as well as to large ones.

This need of small industry for specialized services is only now becoming generally recognized. In America such help is becoming available, chiefly from private organization, but in a lesser degree from the government. In Scandinavia the same results are being achieved by co operation of small industries with the help of government.

In Finland a very interesting process is under way. About two hundred small metal industries, scattered over Finland, with from three or four employees to two hundred employees each, have developed a co-operative organization for supplying the member firms with these specialized services. A central office was set up, supported by a percentage of the income of each member firm. This office supplies its members with technical advice and services of many kinds. It looks after import and licencing arrangements, purchases supplies and raw materials, works out new technical methods for manufacturing, prepares accurate working drawings and speci-

fications for products being manufactured, helps in marketing products, supervises accounting and business management, and arranges loans at the banks. Where the central office, with its staff of forty members, cannot supply the research facilities or the technical services in Finland, it can locate such services in the adjoining countries, and can quickly make the necessary arrangements.

Thus these little firms, through their cooperative organization, have available the highly specialized modern technical services which had been available only to great corporations. This development has occurred in a poverty stricken, war devastated nation, in a barren country along the arctic circle among a people just emerging from primitive life. They do have the advantage of a high quality of integrity in personnel, business and public relations. In India a similar movement has been suggested by Sir M. Visvesvaraya through the All India Manufacturers' Organization. The Indian rural university might well undertake to develop and to supply leadership for these services so essential to the success of small rural industry. Somewhat similar services are necessary for agricultural marketing cooperatives.

Rural Public Administration:- The profession of public administration in a rural democracy has yet to be developed in India. Democracy cannot thrive: unless the people

learn to handle their local affairs themselves. If the new India is to be truly democratic it must learn to combine the local management of local affairs, and the regional management of regional affairs, with co-operation and unity in those matters which must be dealt with by the nation as a whole.

In all democratic government, while the general over-all control rests with elected representatives of the people who come from every walk of life, the actual administration of the public business can best be performed by professionally trained, skilled and experienced specialists. The *FIRKA PANCHAYATS* will need permanent secretaries. District police supervisors should be, not politicians, but professionally trained men who are skilled in the theory and art of public order and safety. The rural university should train professional safety directors. While in much of India land records are well kept and present no serious problem, yet in other parts such record keeping has been a vast source of petty blackmail, graft, special privilege and coercion by small officials and self-seeking persons. This whole field oft itle recording and administration should be raised to a professional level. It should fall to the rural university to develop good methods of title administration, and to train men for that work.

There are many other elements of rural public service for which the rural university

should prepare. Travelling accountants could train local officers in simple accounting methods for villages, and for the larger administrative units between village and district, which have different names in different parts of India. They could also supervise accounts and prevent irregularities. Sanitary officers will need to be trained, the distribution of irrigation water should be improved and the collection of taxes should be regularized.

Rural Social Welfare:- Over all of rural India, aside from missionary undertakings, there is very little provision for the care of the aged or orphans, cripplied, blind and deaf. Nor is there any orderly provision for relief in time of natural catastrophe. Rural Social services should be developed, not to take the place of neighbourly care and friendliness, but to help them to intelligent action and to supplement them where necessary. This work should not be over-professionalized, but should strive to make the ordinary processes of family life and neighbourliness intelligent and effective.

Even though care of the sick is a neighbourhood service, performed without pay, the educating of village women in such intelligent care will provide work for many well trained professional women. Education in community life, cooperation and organization may quite change the spirit and character

of a village. The quality of family life can be greatly changed for the better by wise family guidance, and by education directed by qualified workers. The teaching of nutrition and food preparation in villages will provide careers for many trained women. Village people do well to direct their own recreation, yet a trained recreation leader may be effective in teaching the best folk dances, games and other forms of recreation. The work of a single recreation leader has sometimes changed the recreation habits of many villages and developed local amateur leaders of community recreation. Keeping in mind the policy that so far as possible the social services of villages should be voluntary neighbourly action, yet in many fields there is room for well trained professional social workers to provide education, encouragement and supervision for such voluntary effort. The various rural social services are now scattered through several departments of government, with consequent overlapping and confusion. The rural university might well be an agency for unifying and harmonizing the rural social service work of the various departments of government.

The field of professional social service is constantly broadening and is providing training for men and women in new and important fields. There is prospect that it may contribute substantially in enlarging and refining the cultural and social quality of rural India.

Rural Land and Village Planning:- As discussed elsewhere in this report, most Indian villages should be entirely rebuilt, often on new locations. It may seem at first thought that a village is only a village and needs no skilled planning. Such is not the case. The wise location of streets so that the natural drainage will be good, the proper planning and location of sewers and drains, the best size shape and location of house sights, the best size and location of playgrounds, school houses, public buildings and meeting places, garden plots, pastures and barns, airplane landing fields, and locations for industries - all these are important, and trained and experienced men and women can best handle them. In many cases groups of villages will unite in planning landing fields, playgrounds, schools, common pasture, or industries. There again professional planners will be useful.

One of the great wastes of Indian agriculture is the fragmentation of land holdings. Land planners, working under suitable legislation, should become skilled in working out and administering the consolidation of land holdings, and in suggesting improvements in legislation for that purpose.

More and more India will want to preserve its wild sports of natural beauty, making them precious possessions of the whole people. Land planners should be skilled and experienced leaders in this movement.

Altogether the profession of land planning can become highly developed and highly useful. To make it such should be the work of the rural university.

The Profession of Social Engineering:- In the old days most disputes or other differences were settled by local panchayats or village elders. Few cases went to the courts With the imposition of English law and the rise of urban university law schools the condition has greatly changed. There is litigation every-where. Small town lawyers thrive chiefly as people quarrel. We are told by well informed advocates that outside large cities, more than 90% of legal practice is due to quarrels and litigation.

For the welfare of rural India the legal profession as it now exist should be largely replaced by the profession of social engineer. His work should be, not to win law suits and thereby to pile up a fortune, but to prevent the need for litigation and to further social harmony. He should aim at reviving the settlement of differences by informal agreement before panchayats or rural elders and to clarify social customs and social relations, so that there would be fewer occasions for disputes. He should encourage the habit of making clear records of important agreements so that misunderstandings will not result from poor memory. The English law brought traditions of equality of rights to a culture in

which some persons were considered to be superior and others menials. While we hold to the new concept of equality of rights emphasized by our constitution, the old habits of internal harmony and informal solving of differences should be revived. Social engineering should be not a technique for maintaining the *Statusquo* of privilege or class statification. The basic human rights of the new Indian constitution should be its guide.

The drafting of legislation affecting rural life should be the careful, skilled work of the social engineer who has learned to fully understand and to fully state the issue, who knows what legislation of the kind in this or other countries has been most successful, and who knows how to provide the simplest, most economical, and most easily understood legislative expression. A vast amount of bad government comes from unskilled drafting of legislation. As a rule the politician wants his legislation to be successful, and would welcome such help. The social engineering profession would also watch proposed legislation to draw public attention to that which would be harmful because of careless drafting. The social engineer should be recognized as no less important to society than the public health officer, and should similarly be supported by the public.

Rural Sociology and Anthropology:- The field or rural sociology should not be a

bookish subject, though a solid background of scholarship is necessary. The culture of India possesses many elements. It should be the chief business of the rural sociologist and anthropologist to know what these cultural resources are, to insure the preservation and discrimination of their valuable elements, and to introduce new cultural elements which will add to the range and quality of social life.

Rural Arts :- Similarly, the resources of rural arts, crafts, games, music and dancing should be explored and the best preserved and spread, somewhat as is being now accomplished at Santiniketan. Numerous such centres of influence at rural universities, with mutual give and take with primary and secondary schools, would be desirable.

Rural Medical Service :- Most doctors trained in urban medical schools shun rural life. Both in urban and rural medicine there are many physicians who are maintaining a high standard of unselfish public service. But perhaps there are not enough of them to determine the over-all attitude of the profession. One reason for inclining to this opinion is that many of the succesful urban physicians have inherited the traditions of undemocratic aristocracy. The medical schools find difficulty in securing able men who will give up large incomes for teaching. The rural university should develop a different medical tradition. The rural physician should cast his lot with the

people he serves, taking only a moderate income, such as will give him moderate economic security and enable him to keep fully in touch with developments in his profession.

The possibilities of co-operative medicine and health service should be developed. Along with the training of rural physicians the rural university should train physicians' assistants and nurses. These assistants can handle the routine health work of the villages from secondary school centres, while the rural physician can receive the more difficult cases at larger clinics or hospitals properly spaced, where feasible at the sites of medical schools. These need not be in cities. We are informed by the head of a very large clinic in a very small town that distance from the city is an advantage. It shifts out the ordinary routine cases, and leaves space for difficult cases from which students can learn most.

APPENDIX R.

III. Suggestions for Research in Rural Universities.

In extension of the discussion of research in the chapter on Rural Universities, the following are illustrative of subjects that would be appropriate for rural university research, though many of them would be suited to other universities as well. In most of the fields described there are opportunities

for good and important work even where laboratory equipment is meagre or perhaps entirely absent. As a rule some library facilities would be necessary. Of course, adequate laboratory facilities would greatly assist research, and in some cases, as in much exploration of natural resources, would be necessary.

Ethical Research:- Cannot the spirit of research challenge the saying that science is concerned only with statistical facts, and not with values? Where is there better opportunity than in India to use the methods of science to explore both the means and ends of living? Ethical research can address itself to the practical problems of rural India. What personal and social customs tend to encumber and degrade life? What conditions lead to those habits? Can clear statements of ethical policy be made, based on disciplined scientific observation and therefore subject to test and verification, which will define desirable personal and social attitudes, and therefore lay a basis for removing harmful human relationships?

Such ethical research might well cover all the motives and customs which so obstruct harmonious and effective living. It can explore the conditions which produce these undesirable attitudes and the conditions which favour goodwill, integrity and wholesome human relations. Such inquiry will call for

the help of biology, psychology, sociology and anthropology. Seldom does any one field of research stand alone. A chief hindrance to such exploration is moral timidity. It takes courage to examine objectively a custom which is general and long - lived.

Psychological Research:- What prevents the rural Indian mind from constantly searching for better ways of living? Is it not true that the rural Indian mind is naturally as keen and vigorous as any other? In what way can old sets of mind be broken and an attitude of eager inquiry be awakened? The methods used by C. H. Robertson in China in arousing whole areas of seemingly lethargic villagers to a high pitch of interest in modern science, might well be studied. The psychologists have the rare opportunity of critically exploring the processes of the rural Indian mind, and of learning how on a vast scale to arouse and awaken those minds without coercing or dominating or exploiting them. As a rule, psychologists who are from the villages and who know and respect the village mores can do this best.

Sociological, Anthropological and Cultural Research:- The social background of India is exceptionally rich in what is very good, but also contains elements that account for much of her troubles. Research in rural sociology, anthropology and culture should prevent any impulsive rejection of India's past

as being out of date, and may help bring an end to blind acceptance of harmful or useless elements, now retained because they are old and deeply entrenched. Such evaluation will objectively and critically examine, explore test and appraise in order to disseminate what is good, and to purify the cultural inheritance from that which has prevented fulfilment of possibilities. The method of disciplined critical objective inquiry, applied to a study of rural India, may bring about greater changes in decades than otherwise might occur in as many centuries, and the changes can be wise and discriminating, rather than a drifting with the prevailing currents.

Research in Population :- The impoverishment of rural life in India has been accompanied by excessive increase in population. Quite commonly the people who seem to have least to live for have the most children. When life is rich and varied and there are many interests to share attention, families are generally small. When life is reduced to ignorance, poverty and the bare rudiments of existence, the birth rate is usually high.

The regard for large families, which may have been appropriate when infant death rates were very high, may be inappropriate in modern society. Population policy should be a live study, adjusting to whatever conditions actually exist, whether they be of over or under population. Here is a very important

field for research, especially in India where a dense population is increasing rapidly. The fundamental inquiries are yet to be made. What density will bring the greatest total value of living? Should numbers increase to the very limit of subsistence? Are there other desirable limits of population than capacity for subsistance?

What aesthetic values are concerned with population policy? Is it desirable to have fewer people, so that each may have space for self-expression and freedom of motion? It is almost universal for successful men to try to surround themselves with ample, uncrowded space, if necessary keeping out the crowd by walls or other barriers. In such ways they give expression to the deep and nearly universal human craving for "elbow room". What every man craves for himself may be a desirable aim for society. Should space be saved for those who crave quiet and solitude? Should parks and areas of natural beauty be preferred to filling those spaces with more population? What degree of contact and intimacy makes for the best quality of living? Unless a basis for policy is laid by sound research, how can population policy be based on any factors except limits of subsistence, or the need for armies for defence or conquest?

Even while such fundamental studies are being carried on, practical consideration may call for policies which will check population

growth. What has been the experience with such policies? How long a natural lag will there be between reduction of the infant death rate and reduction of the birth rate? What are the effects of contraceptives? How can the public best be educated in birth control, and what forms of birth control are desirable?

What eugenic practices and policies can help to raise the average quality of the population while checking its uncontrolled increase? What basis have we for eugenic judgment, and how can that basis be enlarged? How far can eugenic policy be furthered by education? Does not India have in the cultural background of certain elements of her population some of the best eugenic policies the world has known? If so, how can such policies be appraised, purified, strengthened and transmitted to the whole people?

Research in Rural Public Administration:- There is a tendency for public administration to continually accumulate "red tape", routine and bureaucracy. If each particular operation in the public business were carried through with the full reasonable possibilities of economy and expedition, it is not beyond reason that the whole public business of India could be done with less than half the present budget.

Public administration research, from the village administration through the whole of

public life can explicitly point out where the waste occurs and how it could be eliminated. This process could be every where active. Every elementary basic shool child, by personal observation and by questioning parents could discover waste in village administration and could devise ways for reducing it. The facts learned could be passed on to secondary schools, colleges, and universities and to research institutes. For many persons at all stages of education to be thinking about elimination of public waste and to be observing the difference between efficient and wasteful methods would be a powerful influence for bringing about desirable change.

Along with the saving of waste should go studies of the best ways of using the manpower releascd, by projects which will increase the public wealth, education and culture. Ethical and psychological research and education would need to go along with that which is chiefly administrative.

Rural Economic Research:- Critical research into the economic structure of rural India as to land tenure, taxation, marketing, finance and money, and the administration of natural resources and public property, might pave the way for removing barriers to productive work, and might provide incentive for creation of social wealth. Economics is commonly looked upon as a theoretical, generalized subject in which rural

life may supply interesting illustrations, but can have no determining influence. If rural people discover, in some respects in which they had thought of themselves as helpless pawns of fate or victims of national or world strategy, that they need not be helpless, but can in large degree be masters of their own destiny, such knowledge will add hope and courage to their work.

Money economy for the Indian village is fairly new. Until recent times villages or groups of villages were largely self-contained. They lived almost wholly by barter or local exchange. Even taxes were paid by delivering a portion of the crop. Nearly everything used in the village or group of villages was produced there. If there were a nation-wide or world-wide panic, the village did not know about it, except by hearsay. Its local exchange of local goods went on, almost regardless of financial cataclysms in the wide world. Its surplus stores were insurance against most famines. Except as disturbed by merciless exploitation by despotic central governments, which levied heavy tribute and took away famine reserves, this simple barter economy provided fairly stable and well entrenched security.

With the coming of the industrial revolution and of cash economy, the great convenience of money as a universal medium of exchange, as contrasted with the limitations of direct barter, led to the dying out of barter.

As a common result of this change, the economic autonomy of the village or small-region tends to fade. Once the barter habit is lost, it seldom is regained. As old time barter gives a way to cash trading, even local village affairs are deeply affectcd by great fluctuations in the national or world money market. In case of a national or international money panic, lack of money for exchange brings even the village economy almost to a stop. The local area may have, in local goods and labour supply, most of what it needs to live comfortably, yet because barter has given away to the use of money, and money has largely disappeared, local goods cannot be exchanged or labour used, and the village shares in the national depression. Would a local medium of exchange for local goods and services partly recover the old village autonomy?

For village and local groups to get a feeling of independent power and possibility would be stimulating. For them to feel that they were not helpless pawns in the great abstract process called economics, but were in some degree masters of their own economic destiny, would be a contribution to democratic self-reliance. Promising methods for achieving a considerable degree of local economic autonomy are awaiting competent research and trial.

Economics, like any other practical study, should be seen, not as an inflexible framework

in which life is irretrevably cast, but as a technique for creative endeavour. In this as in other fields, rural life needs to escape from a sense of fatalism to one of hope and adventure. Rural university research should be an agency for creating that sense of creative possibility.

Research in Rural Natural Resources:- Modern science turns waste into wealth, finds value where none was expected, and finds new and better ways for using familiar materials. The region of the Dead Sea, for thousands of years a forbidding useless desert, becomes a great treasure house of chemical resources. Waste wood processed into wall-board becomes excellent building material. The waste of the sea becomes fertility for the land. Abrasives, refratories, insulating material, ant-friction materials, industrial chemicals, cements, fuels, building materials, paint materials, and many other products are awaiting research and development. Part of this must be the work of highly trained, graduate scientists, but even in highly industrialized countries a large part of the development of natural resources up to the present has been the work of far less scientifically qualified men, who made the best of their opportunities. The rural university should prepare men for the most exacting scientific research, as well as for practical ability to turn natural resources to profitable use.

Rual Industrial Research:- With the present condition of Indian rural life and industry it will be found that much of the desirable modernization has already had the necessary research in other countries, which needs only application to Indian conditions. Rural industrialization calls for a vast amount of preparatory investigation. To discover what industries can best be developed in small units, to find industries which are suited to given locations and conditions, or to find locations and conditions suited to a particular industry, requires competent exploration. The difference between blundering and wasteful industrial development and that which has a high probability of success may largely depend on industrial research. As rural post-basic education calls for small industries to contribute to self-support and to provide practical industrial experience, much competent industrial inquiry will be needed.

Research in Housing and in Building Materials:- The rebuilding of Indian villages requires extensive research. Pioneering in the design of village homes should assemble all that is known of good home design in every land. It should be thoroughly and intimately familiar with Indian village life. It should be scientifically and critically minded, and should have creative genius. All these qualities should be trained to the end of designing village homes that will combine great economy, durability, canvenience and usefulness, and

the full possibilities of beauty. This is a new world of inquiry for the Indian university.

Agricultural Research:- Agriculture in basic education should make boys and girls familiar with the best of the old methods of raising crops, but should not stop there. It should lead them to be interested in the nature of soils and how they can be improved. It should interest them in improving varieties of crops, and in learning how to work the soil so as to get the best crops with the least effort. The aim should be that teachers of agriculture should be persons from villages who have gone through basic primary schools, basic secondary schools, and basic education universities, and who are at home on the land.

Research in agriculture can begin in basic education elementary schools. Where a crop is injured by disease, are there a few plants that do not get the disease, and that can be saved for seed? Nature is constantly producing changes in nearly all species of plants. Some of these are improvements. If such useful changes are noticed and are propagated, there is improvement in the crop. If there are only a few university men who have their eyes open, most of such favourable changes will pass unnoticed and will be lost. If all boys and girls doing farm and garden work in basic education should know that nature is constantly making changes, and should get the habit of noticing them and of saving the

most promising, improvement of verieties of crops might take place a hundred times as fast.

The same is true in many other lines, as in the improvement of farm tools, and in quicker and easier methods of cultivating, irrigating or gathering crops. This matter is discussed in detail to show that research is not a strange process that only university graduates can know about. Every boy or girl can be a research worker, and can get much interest in the process.

In a good basic education programme, the phenomenon which the boy or girl cannot understand will go to the teacher for explanation. The question which is beyond the university teacher will go to the research centre. If the specialist at such a centre wants to find something which may occur in nature, he can, through the basic schools, have a thousand pairs of eyes on the watch for it.

DR. ARTHUR E. MORGAN'S NOTE

1. Rural University.

In the Report of the Universities Commission of 1949 the chapter on Rural Universities deals with very general principles and aims, and nowhere does it get down to exact details as to how to go about starting such a university. Greater detail was not feasible within the limits of the Universities Commission Report.

The chapter on Rural Universities makes it clear that these new institutions should not follow the conventional university pattern, but should create a new educational tradition and should have their own distinctive character. They should grow out of the general principles of the Basic Education program, which differs markedly from conventional education. In a following article we shall discuss the actual starting of a rural university. This present article deals with its general character and principles, for the benefit of those who have not seen the Univesities Commision Report.

We are informed that eighty per cent or more of the people of India live in villages. Up to the present this population has had little benefit of the educational system. If India is to develop as a democratic nation there are two reasons why there must be evolved a system of edu-

cation, extending from elementary school through the university, which will meet the needs of this large part of the population. The first reason is that democracy on a large scale can be permanently maintained only by an educated, well informed people. The second reason is that as the whole people come to share in government they will demand a larger share in opportunity, including a larger share of education.

The existing university system was developed chiefly for the benefit of a very limited class, of chiefly urban people. That system is so deeply rooted in custom that an extension of it would reproduce its main characteristics. It would still be poorly adapted to the large rural population. Moreover, the existing university never was well suited, even to the purpose for which it was intended.

One of the shortcomings of our existing universities is that as a rule they do not provide opportunity for learning by the actual processes of living. If a boy were planning to be a wrestler we should not expect him to succeed very well if he should decide to spend the first ten years in reading about wrestling before he began to practice wrestling. If a person should wish to play a musical instrument we should not expect him to spend the first ten years in reading about that instrument and about music before beginning to practice,

These cases are clear enough. Through long custom we have come to imagine that the situation is different in other fields. In fact, however, the same principles apply to a large extent in nearly the whole of education. Failure to recognise this is one of the chief reasons for the poor results of the educational system.

We cannot learn to live just by reading about living. We must practice living as well. To a large extent we can learn best by such practice. Conventional education has largely failed to include practice at real life and has relied on formal courses made up of lectures, recitations, reading, and perhaps laboratory work. (Laboratory work is highly valuable, but usually it falls short of real life experience). Similar to laboratory work is the "case method," which has been developing in some countries during the past fifty years. In using the case method students study the records of real cases and try to work them out. However, they are only going over the ground of cases already finished, which is very different from being responsible for a real job.

There are several valuable results from learning by actual experience which are missed if we rely on academic courses alone. By actual practice one learns at first hand what are the actual meanings of the words and the statements he has read. He acquires

actual skill in doing what he has read about. Actual experience helps to give one self-confidence and a sense of mastery which study alone does not. One learns the difference between theory and practice. Power to master difficulties comes by working at mastering them, not by just reading about mastering them. One carries in his studies, not primarily to become proficient in them, but to become effective in living. One learns from actually working out problems many things that are not in the formal academic courses. He finds that many statements in the text-books are not true, or are different from his understanding of them. He learns the difference between theory and practice. In learning by practice one finds that actual life is not divided into separate subjects, but that all subjects are constantly interrelated and connected in all sorts of ways, and that he cannot understand any one without knowing something of the others. Practical experience helps him to see what those relationships are.

If a group of rural university students should be planning and building a village water supply they would be learning the engineering of such water supply. They would also be learning about the human relations met with in such work. They would be learning about the actual difficulties met with in employing labour, in getting the approval of public officials in distributing the

cost of the work, in excavating earth, in buying materials, in boring wells or building dams, and many other matters. Such subjects are usually met with in such undertakings, but some of them do not get into formal courses.

A student may be concerned with ethics, religion or philosophy, and may ask "What has the building of a village water system to do with such subjects?". It may be said that while a student may study *about* ethics in a classroom, he only really *learns* ethics as he applies his theoretical learning to actual cases. In the planning and building of a village water supply ethical problems will constantly arise, and in the careful solution of them under skilled guidance as part of the university work, more ethics will be learned than in any course in ethics limited to text-books and lectures.

Practice alone is not enough for education. If it were, then every naturally intelligent person who lives by practical work would be an educated person. One of the chief aims of education is to enable the person being educated to inherit the accumulated wisdom and experience of those who have gone before. Educators and others have tried to gather this material and put it into such order, that the student may get the essence of it as quickly and as clearly as possible, and with the least expenditure of time. In mathematics, for instance, it would

be foolish for each student to try to invent or discover mathematics for himself, or to try to learn it all by practical cases. Orderly theoretical education is a great saver of time and energy. It should help one to think in general principles, and to have background, range and outlook for his thinking. Any educational program which depended entirely on practical experience for learning would be exceedingly wasteful of time and effort, and would result in a narrow education.

The question is not, shall we learn by theoretical study or by practice, but rather, what is the best relation of these two methods to each other in an educational program. Each is necessary, and for true education each depends on the other. Practice and theoretical study should be like the blades of a pair of shears; neither blade is good for cutting by itself, but they cut by being in contact with each other. Conventional education has been like shears with only one blade - that of theoretical education.

The educational methods outlined for the rural university are desirable, also, because they direct attention and effort towards the improvement of the common life. If the work of the rural college is concerned with meeting the needs and issues of the 80% or more of the people of India who are rural dwellers, that very experience

will relate students' lives to that large part of the population. The students will be finding in those problems their opportunities for careers of research, achievement and adventure. They will become skillful and experienced in those fields. Students will come to identify their careers with improvement of economic and cultural conditions of the people with whom they work. The people will see the usefulness and value of education and will give it popular support. In a democracy education must be appreciated and valued by the people in general if it is to receive vigorous support.

As Basic Education principles are applied to elementary education, study and work are carried on together, with no definite division of time between them. In much of secondary and higher education it will be found more effective to provide definite periods for study and other periods for practical work.

The rural university should guard against making its students into narrow specialists. One of the weaknesses of the present technical civilization in Europe and America is that some persons are trained as professional men, industrialists and producers, while others specialize in liberal education and have little preparation for practical affairs or understanding of them. The modern world requires all-round educated men and women who are also practical and efficient persons.

Every student at a rural university should get a good introduction to his physical world through study of geography, geology and astronomy and by physics and chemistry; he should come to have an intelligent view of the world of living things through a study of biology; he should get an acquaintance with the background of human life through a study of anthropology, history, sociology and economics; and of the mind and spirit of men in psychology, literature, philosophy and the fine arts. How to cover such a wide range in so short a time is one of the chief problems of education. In some countries much progress has been made in that direction during the past twenty years.

In the Report of the Universities commission, in the Chapter on Rural Universities, and the chapter on General Education, as well as in appendices on New Rural Professions, Research in Rural Universities, and the Danish People's colleges, many suggestions are made for the organization and interests of rural universities.

In order that rural universities and their constituent colleges shall be human institutions, in close touch with the people and with the life of the times, they should remain relatively small, with teachers and students having close personal relations. A desirable form for a rural university would be a ring of small undergraduate colleges, each with a

maximum enrollment of perhaps 300 students. At the center of this ring of small colleges would be buildings for specialized and graduate study. The enrollment of the university, including the undergraduate colleges, should probably not exceed 2500 or 3000. Mass education in huge unversities may gain in technical equipment, but it loses in human quality and in character. Several years ago, when I was searching far and wide for an unusually able physicist to be head of a department of physics, I was told that the little university of Utrecht in Holland had more physicists of the first rank among its graduates than all the enormous universities of America. For several years a famous educational foundation in America made a study each year of the quality of scholastic work done in a large number of the best liberal colleges in America, and published comparitive ratings of them. Each year the college which ranked highest of all was one of the smallest, Haverford, with only 300 to 500 students. We must get away from the idea that excellence depends on size.

There is another essential condition for success of the rural university; that is, moral and spiritual quality. Gandhi was forever emphasizing his conviction that education, skill and power, unless they are ruled by high motives, may in the long run bring no value. Germany was one of the most highly educated countries in the world, with scientific

achievement unsurpassed by any other, yet when we consider the systematic, cold-blooded "scientific" murder of millions of people carried on by the German government we see that education of itself may not add to the quality of a nation. Here and there over India are men and women who have given everything they have, in a spirit of human service, to create a vital basic educational system. Some of them have the quality of education needed for good university work. A combination of that sincere devotion with practical commonsense judgement and experience is needed to give the Rural University great quality. It might be well if the faculties of rural universities should largely be recruited from men and women who have proved themselves in this way.

The following article will discuss methods for actually starting a rural university.

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2. *How to Start a Rural University.*

When some kind of institution, such as a university, has become well established, and when its operation has become a matter of long-time habit, it is relatively easy to create another institution of the same type, and it is very difficult to create a new institution for a similar purpose but of a very different type. For that reason the creation of rural universities will be difficult.

The principles of Basic Education, as outlined by Gandhi and by Talimi Sangh, if soundly developed and applied throughout the entire range of education, may well be one of India's greatest contributions to the modern world, but only in case the fundamental elements of Basic Education are kept alive and growing, and are not surrendered for the sake of convenience. It is a new creation which can be brought to full development only by determined, patient and persistent effort. Persistence does not mean keeping the Basic Education program unchanged. It has been developed only in its rudiments, and calls for a vast amount of growth, development and experience. It is necessary to distinguish between the change which will result from growth and experience and the change which would be largely a slipping back into old and easy ways.

There are strong influences which lead to a giving up of the real values of a new program and to a slipping back to old custom. For instance, if we have started on such a program it is necessary to keep it going from day to day. We know how to do things in the old, familiar way, whereas the details of the new way have to be invented or discovered as we go along. Invention and discovery, and the development of new kinds of skill, require a tremendous amount of energy. We may do the new thing wrong many times before we learn to do it successfully. We are therefore constantly tempted to slip back into the old ways we know so well. We say to ourselves that we will carry on in the old familiar way until we are well started, and then we will change over to the new ways. Before long the old way becomes the accepted way, and what we intended to do when we started never actually gets done. The larger the undertaking, and the larger the number of people involved in it, the more compelling seems the necessity for keeping things going in the way we know well, and postponing to the future the actual carrying out of our plans. For that reason Basic Education universities usually should start small, and should grow only as the problems and methods are mastered.

The principles and methods of Basic Education, as applied on the university level, are not new in theory. Great men and great

educators, from the days of ancient India, ancient Persia, ancient Greece, and down to our own day, have described those principles and methods in fairly clear terms, and have strongly advised their adoption. Because it is easier to do things in the familiar way, and because of the necessity for keeping things going from day to day, the old routine methods have persisted, though new methods in many ways similar to those of Basic Education are making great headway in some countries. Gandhi was different in that while his picture of what constitutes real education was similar to that of many great men in times past, he carried his ideas into action. The long time success of the method will depend on the extent to which there is patient determination and open-minded inquiry in working out the program in actual practice.

Good principles are seldom worked out easily in practice. This fact is illustrated in the development of the automobile. The first automobiles were excellent in theory, but for years those that were built were so faulty that they would travel only a few miles without trouble. One met more difficulty in going a thousand miles than he now meets in going fifty thousand. The difference has not been due to any one or any few brilliant minds, but to the gradual contributions of many able men, combined with years of experience. The same will be true of Basic Education. The general principles have been quite clearly

seen, but it will take years of intelligent, patient work and much experience to develop its full possibilities. Without such effort Basic Education would soon settle down to a routine with but little life and growth.

The same is true of the rural university as outlined in the report of the Universities Commission. The principles stated have been approved and recommended by many able men for centuries past, and during the past forty years there has been rapid progress in the development of some of them. They seem to be clear and sound, but to work out their application to Indian and Asiatic conditions will require a vast amount of original, creative thinking and hard work. If undertaken on too large a scale, then the need for keeping things going from day to day will govern the program, old familiar methods will be continued, and before long the idea of rural universities based on Gandhian principles will fade out as a beautiful dream that was impractical. If the idea of the rural university is to be realized, it is important that the undertaking be begun and carried on in a way that will maintain its fundamental principles unimpaired, while developing new and effective methods, and learning by experience.

This long discussion of the difficulties of establishing rural universities, and of the danger of their losing their essential quality, is presented because unless these difficulties

are clearly realized a big and apparently favourable beginning may lose its essential quality. What is true of cducation is true of any fundamental advance in human affairs.

First steps toward a rural university. There are various ways in which a Rural University may be started. An existing college or university may be reorganized; a teachers' training institution, in preparing young men and women for teaching in Basic Education schools, may adopt Basic Education methods in its training program. One of the most promising methods would seem to be that of beginning with a post Basic Education secondary school and gradually developing it into a Rural University.

This process of developing a secondary school into a college and into a university is similar to the method by which many existing universities came into existence. They bagan at the level of secondary schools, and then, by doing excellent work and by gradually adding more advanced studies, they became colleges or universities in fact. It may seem a slow way to proceed when the times are so urgent, yet it may be the surest way in many cases.

In moving from Basic to post - Basic Education it may not be necessary to add a complete post-Basic program all at once. If a single year's work is added at a time and well mastered, the growth may be natural

and sound. So, in developing a Rural University from a post-Basic school, the addition of one year of university curriculum at a time, or one subject at a time, may give opportunity for thoroughly mastering the problems involved and for developing good methods. Probably it would be better not to have any fixed schedule as to the rate at which additional years of university work should be undertaken. If the project is moving along smoothly and successfully, then a single class of students might be carried through a complete university course, additional years being added as the students grew up to them. On the other hand, if the development of methods should be difficult, then it might be well to stop for a few years at some particular stage until that stage had been well worked out. It is not necessarily an advantage to quickly grow large. The program based on basic education is an important addition to the educational methods of the world. It is very important that those methods be carefully thought through and worked out in practice, so that the world shall get full value from this contribution.

Sometimes an institution does its best work while it is small and experimental. For example, when the study of electrical engineering was first being introduced into American universities, in one university a single teacher and five students started out in a single room and a tiny laboratory. Since no one knew

how to teach such a course they explored it together, working out their methods as they went along. Of that little class of five, three became world leaders in their field, while the other two were successful on a smaller scale. A small group of people working earnestly and vigorously on a problem, even in relative poverty, may do better work than large classes in a rich and large university.

Neither is it necessary to begin all phases of a Rural University at once. If there is a particularly competent leader in some field, begin in that field. A fine job done in one field will help in developing good methods in other fields. Begin wherever it is possible, and do the best work possible. Out of such efforts sound Rural Universities may develop.

Let us assume that a post-Basic Education school is in operation in a village built for that purpose, perhaps associated with a teachers' training program, and that we want to develop it toward becoming a Rural University. Just how can we go about it?

What definite abilities on the university level exist in the present teaching staff or in persons who can be added to it? In two appendices of the Report of the Universities Commission a number of rural professions and fields of rural research are discussed, any one of which might be the beginning point for Rural University work. These suggestions include such engineering fields as water control

engineering, soil improvement engineering, temperature control engineering, food processing technology, and mineral processing; they include such social work fields as rural industrial counselling, rural public administration, rural social welfare, rural land and village planning, social engineering, rural sociology and anthropology, rural arts and rural medical service. These are only illustrations of many fields of study and work that are of interest to rural life.

Suppose a member of the faculty of the post-basic school is qualified in the field of rural public administration. This teacher and his class might work out the general administration of the school and the proposed university as a village government. Perhaps a panchiat with various working committees would be desirable. Some European universites have substantially that kind of Government. It would be necessary to become thoroughly familiar with the history and background of local government in India and elsewhere, and to learn what the strong and week points are of various systems and methods. Also it would be desirable to visit various village or regional panchiats to see how they are working, what good and poor features they possess. The actual development of a working program of public administration for the school or college community would be excellent training.

Next, this department of the university might well try to help the local and regional panchiats thereabouts to work out their practical problems. Some panchiats will need secretaries or other administrative assistants. Some of the students might be prepared for such work. If such a department should do good, thorough work, based on actual experience and on a thorough knowledge of the history and practice of local government, it probably would become such an authority in that field that it would be called on for advice and counsel in problems of local government, and in the drafting of legislation in that field. The vast expansion of local government, through the organization of panchiats and otherwise, will not suddenly bring wisdom in that field. There will naturally be many cases of blundering, confusion and ignorance in operating the system. A few Rural Universities thoroughly qualified and experienced in that field make a great difference in the success of local government. Such services might be a source of income to the Rural University. We have used the field of rural public administration as an illustration. Any one of several other fields might have been used just as well.

One of the limitations of such a field as rural public administration as the beginning point for a Rural University is that it might be difficult at first to find profitable part-time work for students in that field. In the course

of a few years, with careful search for opportunities by members of the faculty assigned to that work, it probably would be possible to find such opportunities within two or three hundred miles of the university. Here and there local governments would be struggling with their problems, and would welcome help. (Appendix G of the Report of the Universities Commission is a brief description of methods used in such part-time work, and more detailed descriptions can be supplied on request.)

Though the long-time financial possibilities of part-time work for students in rural public administration would seem to be good, the development of such possibilities would take time, and they could not be relied on for financial assistance in getting a Rural University under way. The same would be true for several others of the fields of work mentioned above. Where funds are available for the support of a Rural University and of its students, such a long-time program would be feasible as a source of support. Little by little a university could approach self-support for itself and for its students. However, if such funds are not available there remains the problem of financing the early period of such a university, and of helping the students to meet the expenses of attending it.

Self-Support for a Rural University. Gandhi stated that, in view of the general poverty of India, no system of education

would be successful for the general population unless it should have a large measure of self-support. Passing over the question of how much self-support is possible in elementary Basic Education, it is my opinion that in post-Basic and university education a considerable amount of self-support is possible if teachers and students are imbued with the devotion and determination which were present in the early days of the institution which developed into Poona University, or which characterized Jamia Millia or Jadavpur Engineering College. Very simple living and hard work would be necessary.

Aside from production of food, shelter and clothing for use at the institution, which should be possible at every such institution, there are two principal ways by which a considerable degree of self-support can be achieved. One of these is by having the students work half time for other firms or institutions, spending alternate periods at their studies and at such income-producing jobs, usually at some distance from the university. This method has been quite highly developed, and has been adopted by scores of universities, colleges and technical schools in America, and to a smaller but growing extent in England. In America such student jobs are held in a wide variety of callings, and often the student travels five hundred miles or more from the university to his job, in order to find work in the field

of his personal interest. In view of rates of pay and employment conditions in India, this method might not have so much promise of financial assistance.

Another method of achieving a degree of self-support is by having the institution develop its own industries or services. One group of colleges and associated institutions in America, numbering thirty or more all together, have largely developed their resources and paid their operating expenses, as well as largely supported the students, in this manner. These institutions operate small manufacturing plants, raise their own food to a large extent, build their own houses, and operate hospitals, sanitoriums and medical clinics, charging the usual rates for their services.

The extent to which this latter method, of having a university establish and operate its own industries and other undertakings, would succeed in India would depend largely on the degree to which the institution should take advantage of modern methods of making work productive. One of the chief reasons for the poverty of India is that a day's work of an Indian worker produces so little. For instance, I have seen paper making by primitive methods in which fifty or a hundred times as many hours' labor was needed to make a pound of paper as would be required by modern methods.

The idea that the introduction of modern technical methods necessarily results in increased unemployment is unsound. In general, unemployment is least in those countries where technical methods are best developed, as in Switzerland, Denmark, or the United States. If a post-basic school or university tries to contribute to self-support by primitive methods which allow a day's work to produce very little goods, than the chances for such support are less promising. If methods can be used which give a high degree of productivity to human labor, then the chances for contributing to self-support may be greatly increased.

If a post-basic school or college or university should undertake to largely support itself by its own industries or services, it probably would be desirable for each half of the student body to attend directly to their courses for half the time and to spend the other half the time at work in such industries or services. Alternating periods of work and study might be a week or as much as a month or two, depending on circumstances. In such a program it would not be possible for every student to work only in the field in which he would be studying. The need for income would require him to work wherever he might be most productive.

At the beginning a Rural University might have only a few ways for self-support.

As it would develop, additional fields of study, more opportunities for supporting itself by performing services would gradually increase, in such fields as local public administration, water supply engineering, health services, land and village planning, etc. Full development of the possibilities of self-support of such a university might require quite a number of years. In the meantime the institution would need to rely on income from perhaps a few kinds of industries and services.

A few possible industries may be mentioned. Modern irrigation pumps could be built, to be operated by animal power or steam or gas or electricity. While only a small part of India now has electric po ver, the areas so served will increase faster than local industries can provide them with equipment. Bicycles can be made in relatively small plants. Precision looms can be made by machine with such exact dimensions that if a part breaks it can be replaced by a standard part for a few rupees. In some localities food processing plants can prepare for the market food which otherwise might be wasted, as in the case of mangoes in parts of India. Agricultural tools, formerly made in village blacksmith shops, are more and more being made in large factories. They could be made as well in relatively small industries. The same is true of small tools for carpenters, masons and mechanics. The number of such possible industries is large. Some of them

would require considerable technical equipment and a considerable degree of industrial experience. Others would require but little expenditure for equipment

Since returning from India I have tried to find a person who is experienced in modern technical production on a small scale and who would be interested in helping to create such a small industry for an educational institution. The aim would be to train other young men in India so that the necessary skills and experience could be spread as rapidly as possible. It was also necessary to find the funds for sending such a person to India. It seems that these difficulties are largely overcome, and that it will be possible for such a person to be in India by the beginning of 1951 if suitable arrangements can be made there.

It is a mistaken assumption that modern production methods must be associated with a spirit of exploitation. Modern methods for meeting human needs should not be left as the monopoly of those who would use them for personal aggrandizement. They can be made to serve the best purposes of society, such as the need for education. For many years until the second world war the great Zeiss optical works of Germany, makers of some of the world's fines optical goods, were owned by the University of Jena. We are sending to the Talimi Sangh at Sevagram a

number of copies of a book, *All Things Common*, by Claire Bishop, which describes an interesting movement in France and other parts of Europe. Various groups are carrying on manufacturing and other undertakings by modern methods in a manner to provide financial, educatinal and cultural opportunity for the group. This book would be of interest to any one undertaking to develop economic support for a Rural University. Some of these projects were begun under very great difficulties and with very small resources.

The notes which I have written do not, of course, constitute an outline of how to start a Rural University. They are only random hints and suggestions, made in the hope that they may stimulate some people to work on the problem The high degree of devotion, persistence and resourcefulness which I have seen in various undertakings in all parts of India leads me to believe that Rural Universities, following the general philosopy of Gandhi, and committed to serving the 80% of the people of India who do not live in the cities, are feasible. Their first staffs could be made up of university trained men, and others of equal ability, who have demonstrated their interest and competence in Basic Education or in similar fields.

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